ANNUAL REPORT

OF THE

Department of Agriculture

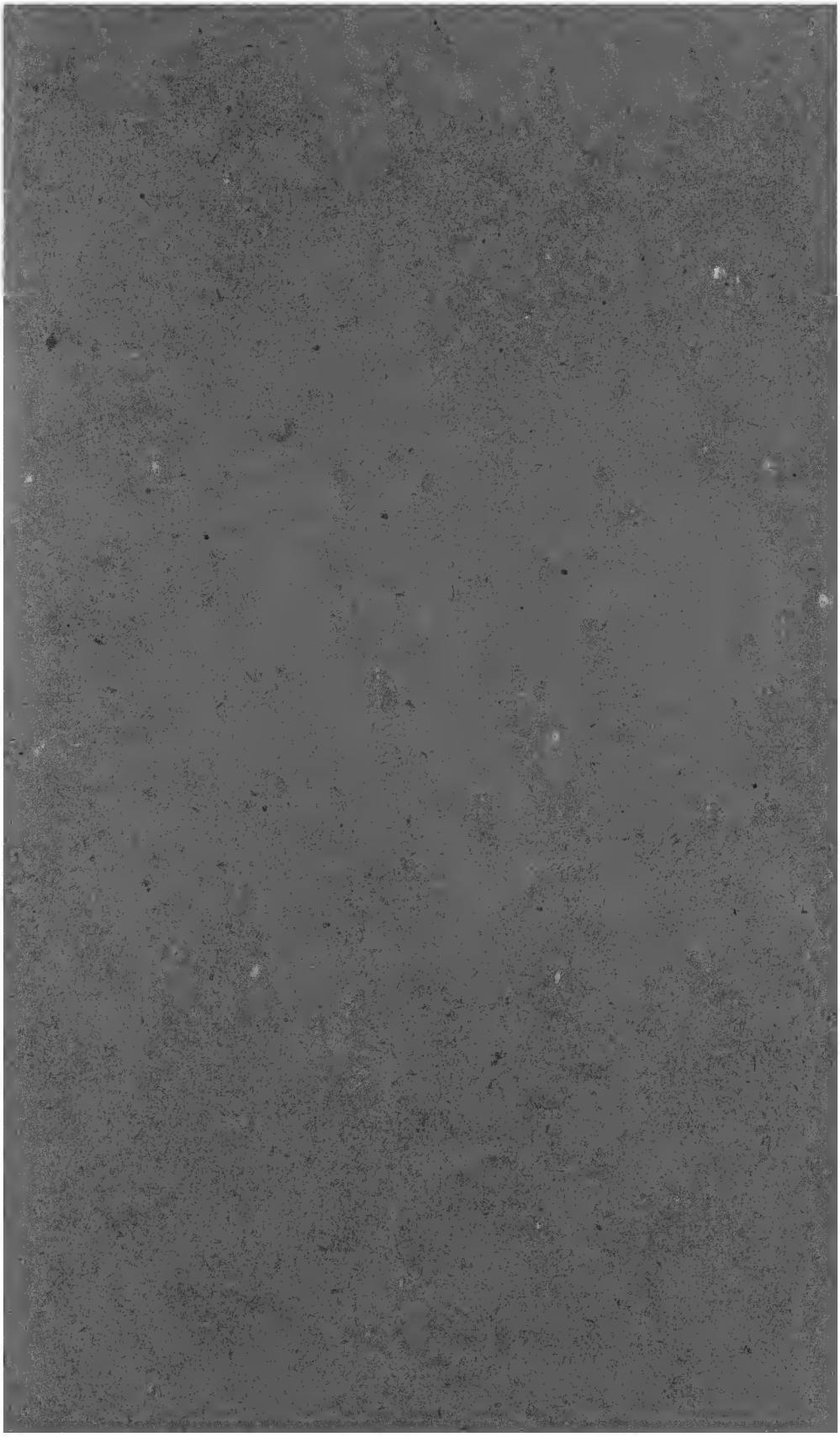
OF THE

NORTH-WEST TERRITORIES

1903

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY

REGINA
JOHN A. REID, GOVERNMENT PRINTER
1904



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DEPARTMENT OF AGRICULTURE,

REGINA, *March 1, 1904.*

To His Honour

AMEDÉE EMMANUEL FORGET,

Lieutenant Governor of the North-West Territories.

SIR,—

I have the honour to submit herewith the Annual Report of the Department of Agriculture for the year 1903.

I have the honour to be, Sir,

Your obedient servant,

W. ELLIOTT,

Commissioner of Agriculture.

ILLUSTRATIONS.

(See end of Volume.)

REPORT

OF THE

DEPUTY COMMISSIONER

DEPARTMENT OF AGRICULTURE,

REGINA, *March 1, 1904.*

W. ELLIOTT, ESQ., M.E.C.,

Commissioner of Agriculture.

SIR,—I have the honour to submit herewith the Report of the Department of Agriculture for the North-West Territories for the year ended December 31, 1903, being the sixth annual report since the organisation of the department.

In order to present the contents of the report in a convenient form for reference it has been divided into twelve sections as follows:

I. Crops.
II. Live Stock.
III. Agricultural Experiments.
IV. Agricultural Educational Work.
V. General Notes on Agriculture.
VI. Transit and Markets.
VII. Territorial Industries.
VIII. Colonisation.
IX. Miscellaneous Services.
X. Public Health.
XI. Office Work and Organisation.
XII. Appendices.

I.—CROPS.

WEATHER CONDITIONS AND STATISTICS.

The large and constantly increasing demand for information with regard to the climatic conditions and crop yields of the Territories by persons in every part of the world, but more especially in Great Britain and the United States, fully justifies the labour and time devoted by the department to the compilation of meteorological and crop statistics. Capitalists seeking investments, land companies interested in the settlement of their properties, and intending settlers of the more intelligent classes, apparently regard the annual report of the department as a satisfactory, reliable and lucid source of information concerning the North-West Territories. It is safe to say that no portion of the report is more eagerly scanned by such persons than those which deal with weather conditions and crop statistics. As a matter of fact the department, while denied the powers and means which under a more auspicious

political condition it would naturally possess, for the furtherance of settlement, is in a quiet way doing much towards that end by the publication of such information with regard to the agricultural capabilities of the country as is contained in its annual reports and crop bulletins. It has been pointed out in former reports that the existence of reliable statistics in a concise, intelligible and readily accessible form is a practical necessity for the conduct of intelligent agricultural operations. In table No. V the department endeavours to show the relations existing between the meteorological conditions and the yields of the principal crops. It may be mentioned that these figures have aroused considerable interest and have attracted the attention of scientific men. It should, however, be borne in mind in considering any figures given with regard to what may be termed applied meteorology that the factor of altitude should be given due weight. Table No. IV gives the altitudes of the meteorological stations in the Territories and from it an idea may readily be formed of the approximate mean altitude of the various crop districts.

The department has again to acknowledge the kind co-operation of the Director of the Meteorological Service in its supervision of the work of the voluntary meteorological observers in the Territories in accordance with the existing arrangement, which appears to be satisfactory to all concerned.

The following stations were closed during the year: Broomhill (near Calgary), and Oonikup, Saskatchewan; and the following new stations were established: Gleichen, observer, Rev. Canon Stocken; Newhope, observer, L. G. Summers; Insinger, observer, Robert Lawrie; and Foxleigh, observer, W. Harford Davis. There were 46 stations in active operation during the year and these furnished 418 reports.

During the year Rev. T. N. Harrowell, observer at Whitewood, was replaced by Mr. Allan Moore; Mr. Jas. Nutter, Dirt Hills, replaced by Mr. Hy. Skelton; Mr. D. J. Mackay, Indian Head, replaced by Mr. B. J. Reynolds; Mr. J. D. Skinner, Lacombe, by Mr. W. B. Howell; Mr. Edwin Gray, Red Deer, replaced by Mr. R. E. Fiske, of Hillsdown; Mr. E. J. W. Rayment, Saltcoats, replaced by Mr. R. T. Welwood; Sergt. Brymner, of Coutts, by Sergt. Loggin who was afterwards replaced by Staff-Sergt. Johnston.

The usual tables will be found towards the end of this section of the report, as follows: (1) Annual precipitation for the last eleven years and averages; (2) Total precipitation for each month of 1902; (3) Mean, maximum and minimum temperatures and dates of minimum for each month of 1902; (4) Latitude, longitude and elevation of each of the Territorial meteorological stations; (5) Mean daily temperature, total precipitation and crop yields for each crop district for the past six years.

DISTRICT REPORTS.

JANUARY.—The month of January has not been stormy, and, while fairly cold in the more northern and eastern portions of the Territories, it has been exceptionally mild further west. The first five days were comparatively mild at all points, but then north-westerly gales set in, a heavy snowfall occurred in Eastern Assiniboia, the weather became colder and for some days decidedly low temperatures were recorded. The chinook was again blowing in Alberta on the 12th and spread

gradually eastward A moderate cold wave came in from the northward on the 16th, but the temperature soon rose again in the far west. A succession of small cold waves followed each other during the next ten days, and some fairly low temperatures were recorded, but it was not until the 25th that the most pronounced and widespread cold wave set in, and the last six days of the month were decidedly cold in all districts. *Calgary*—January has been a fine, bright month, with lots of bright sunshine, and very little snow—not even a flurry until the 27th, when less than half an inch was the fall. Although bright and with considerable wind there has not been a regular chinook, and at no time has muddy or slushy weather prevailed. The ice on the prairie reported on January 1st for the most part remains and cattle have suffered somewhat from lack of moisture as the weather has been cold enough to keep the springs and streams for the most part frozen; still the cattle have held their own wonderfully well and very little fodder has yet been used, and, as there is an abundance of good fodder in stock, ranchers are counting on another prosperous year in the cattle business. *Medicine Hat*—The weather during the month has been open and mild, and free from storms, and very favourable for the cattle ranges. *Battleford*—The weather has been very changeable throughout the month and the last cold spell was rather hard on stock. *Qu'Appelle*—Weather delightful; business brisk; grain pouring in rapidly.

FEBRUARY.—The month of February was a continuation of January weather, being for the most part clear and bright with but one fall of snow, amounting to about five inches, which quickly disappeared from the bright sunshine which followed. The snow had the effect of furnishing the range stock with much needed moisture. Stock is all looking well and very little fodder has as yet been used. Ranchmen feel pretty safe as they have an abundance of fodder, even if the spring should turn out stormy and disagreeable. *Medicine Hat*—The first half of February was changeable with some low temperatures, finishing with clear, bright weather; stock has passed through the winter months well. *Qu'Appelle*—Weather of the month mild and pleasant.

MARCH.—In Alberta it has been a very cold month with a lower mean temperature than in February. Temperatures much below zero were recorded on many days, the lowest dip occurring between the 8th and 14th when on several nights it was more than 20 degrees below zero. Further east, in Assiniboia and Saskatchewan, very similar conditions prevailed, nearly the whole month being cold and wintry with occasional light snow. The following are reports from observers: *Calgary*—March has been a cold and disagreeable month with comparatively little sunshine and a prevalence of south-east winds up to the 28th, when milder conditions prevailed. The month did not terminate lamblike, however, as about 9 p.m. on the 31st a rain set in which turned to snow accompanied by high north-west winds. The weather has been unfavourable for range cattle as the wind and the cold weather packed the snow very hard and fodder was difficult to pick up on the prairie. Blue birds were noticed on the 30th, but robins or gophers have not yet made their appearance. *Edmonton*—Sleighing practically gone; season later than usual. *Medicine Hat*—The weather throughout March has been cold and wintry; deep snow reported in some parts of the district and some loss amongst weaker class of cattle. *Prince Albert*—Spring cold and backward; snow barely started to leave.

Qu'Appelle—Crows and hawks seen on the 30th. No advance in vegetation; wheels generally used; spring work has not yet begun. *Swift Current*—Month set in cold and stormy; snow continuing on ground all month; season backward, more so than for many years; a rise in temperature during the last few days, snow clearing and water flowing over the ice. *Regina*—Cold up to within last week when it turned very mild; snow all gone on prairie; two inches fell here at intervals during month; hawks, gophers, geese and ducks reported at Gatesgarth, and gophers here on the 31st.

APRIL.—In the Qu'Appelle Valley very favourable conditions prevailed generally, but north and west of the Qu'Appelle the season has been cold and backward and very little seeding has so far been accomplished. *Calgary*—April weather, while a great improvement on that of March, having many warm days with few storms and lots of bright sunshine, still had a preponderance of cold nights which retarded vegetation. The prairie is just assuming a garb of green, but few flowers or leaves have as yet made their appearance. Range stock have for the most part wintered well and the loss will not be so heavy as feared at the beginning of the month. Seeding is pretty well advanced. *Battleford*—Prairie fires have been burning for a couple of weeks past; no growth yet and no seeding done, the weather having been unfavourable and raw throughout the month. *Prince Albert*—Ice broke up in river on 23rd; is still running; water unusually high. *Edmonton*—Spring very backward; very little seeding done yet; many small birds not arrived. *Medicine Hat*—Weather during the month has been fine and dry; vegetation is now requiring rain; prairie fires have been very frequent. *Qu'Appelle*—Seeding commenced two weeks earlier than last year; wheat all sown and mostly up; oats being sown now; 10 to 15 per cent increased acreage; prospects very bright.

MAY.—The weather was for the most part, fair and dry, up to the 16th, somewhat colder than average from Regina west; after this, and during ten days, rain became general, and a good deal of snow fell in the more western districts; near the mountains it was reported as a heavy snowstorm. *Calgary*—May weather has been for the most part cold and backward with very heavy snowstorms accompanied by high winds about the middle of the month. Although the storm was severe, comparatively little damage was done to stock that wintered in the country, but stock brought in in the spring suffered severely. Heavy frosts prevailed during the month up to the 24th, which greatly retarded vegetation. Leaves partly out were blackened and set back. During the last week, however, the warm weather has developed grain, grass and leaves, although everything is sadly late. Cattle, on the whole, have done fairly well and ranchmen have had another good year. *Edmonton*—Crops all in and looking splendid, rain needed in some quarters to put out heavy bush fires. *Swift Current*—After the middle of the month there was a severe storm with heavy rain and snow, accompanied by strong winds and continuing the greater part of one week; some loss reported in stock through storm, though not as heavy as at points east and west; gardening operations retarded, but now picking up; some good results expected by the new farmer settlers. *Battleford*—The month has been very cold and wet; vegetation backward; seeding all done and conditions very favourable now. *Medicine Hat*—Fine and springlike weather up to the 17th, followed by a very

cold week with rain and snow, causing some loss among stock. *Regina* —Cold and dry up to the 16th, except slight rains on the 2nd and 3rd; heavy rains 17th to 29th; sharp frosts mornings of 9th, 18th, 19th and 21st; last days of month very warm. *Qu'Appelle*—Weather fine and warm; vegetation growing rapidly.

JUNE.—Observers in the North-West Territories are unanimous in reporting the season as most favourable and crops well advanced. There were a very few light scattered frosts, but nothing that did injury, and the only unfavourable feature was a somewhat scant rainfall. *Edmonton* —Crops are two weeks in advance of last year; weather very favourable. *Calgary*—June was very favourable to the vegetation of the country as well as being very agreeable; frequent showers supplied a sufficiency of moisture for the young crop, and everywhere the farmer is contented. A feature of the month was warm nights in comparison with average nights out West. Grain, roots, grasses, vegetables and everything are very forward, grass being at least two weeks earlier than last year, and an abundant hay crop is assured; cattle and all live stock are very fat, and beef will be ready for export much earlier than last year. *Battleford* —The first part of the month was very dry, but the rain of last week righted everything and crops could not look better. *Medicine Hat*— Dry and warm weather during June; rain needed locally; districts to south and east report some rain; both stock and feed are reported as quite satisfactory. *Prince Albert*—The weather has been dry, but recent rains have been beneficial to the crops which promise to be above the average. *Qu'Appelle*—Crops are in excellent condition; plenty of rain; weather warm and favourable to growth.

JULY.—Alberta suffered again as it did last July from a super-abundance of rain attended by cool weather and an absence of heat. In northern Saskatchewan also much the same state of affairs prevailed. As a consequence harvest conditions are backward in these localities. Elsewhere, however, in the Territories the outlook is extremely promising. *Calgary*—July weather has been somewhat cool with a great number of showers, raining on sixteen days. Vegetation is quite rank and so far every prospect indicates a record yield in hay, grain, roots, etc. Stock of all kinds are abnormally fat but the wet weather has kept the grass soft and hindered the ripening of the beef for export. Fears are entertained in some places that the splendid crop of hay will be hard to secure owing to the protracted wet weather. *Edmonton*—Crops very rank growth; too much rain and cold weather. Hay and roots a magnificent crop. *Battleford*—Crops looking very well; haying very bad so far owing to so much wet weather. *Medicine Hat*—July weather has been fine with some light rains. Hay harvesting has commenced. The crop of grass is reported good generally. *Swift Current*—Rainy month; changeable weather; everything a little backward; haying just commencing but stock and crops looking well. *Qu'Appelle*—Crops continue to advance rapidly; harvesting expected to begin about the 23rd; very large yield anticipated.

AUGUST.—*Calgary*—August weather, like that of July, has been cool and cloudy with some very heavy rains which have had the effect of retarding the ripening of the heavy crops with which the whole country abounds; and although in some places barley and oat harvesting has commenced, the majority of the crops are quite green; haying has been very much retarded by the wet weather, and although the crop is abundant

comparatively little has been saved. Cattle, although very fat, are still too soft for profitable export; roots and vegetables of all kinds are abundant and large and still growing. Should September prove fine and warm, a very large harvest will be guaranteed. *Regina*—August was cool and cloudy; rain on eleven days, total 3·27; violent thunderstorm with some hail on the 17th; no frost yet; wheat harvest just commenced. *Medicine Hat*—Dull and cloudy weather prevailed during August; frequent light rains have delayed harvest work; hay and grain crops reported fairly average. *Swift Current*—Some heavy rains and thunderstorms during August have delayed work; haying not nearly finished; feed plentiful; stock in good condition. *Qu'Appelle*—Harvesting delayed by recent wet weather, but now in full swing, crop heavy, sample excellent, no damage as yet. *Battleford*—Grain cutting commenced a few days ago, majority ripening nicely; haymaking far behind.

SEPTEMBER.—A marked feature of the month was a severe storm which moved northward and swept over the north-east and east. A heavy gale prevailed, but however did not extend far into Assiniboia, and this also true of the precipitation. Broadview, Assiniboia, may be taken as the most westerly limit of the storm; beyond this to about Regina soft, melting snow fell during the afternoon and night of the 12th but the accompanying winds were not so strong. The storm did not extend to the western points of Assiniboia and Saskatchewan nor into Alberta. A light snowstorm occurred on the 12th in parts of southern Alberta and western Assiniboia. *Calgary*—September weather has been very unsatisfactory alike to the farmer and stock men; for the latter the grass has remained too soft and green to fatten cattle for profitable export and the weather has been too wet and cool to cure hay or permit satisfactory ripening of the crops. Snow fell on the night of the 12th and forenoon of the 13th to the extent of 4 inches; it quickly melted away and did but little damage. Comparatively little damage was done by frost, the thermometer showing but four degrees of frost till the night of the 29th when six degrees were recorded, but all the grain intended for the threshing operations was then cut, although a great deal of green feed remains standing. Roots and vegetables of all kinds are very bountiful and well advanced. *Regina*—September cool; first frost, minimum 29 degrees, on the morning of the 4th, snowed afternoon and night of the 12th, followed by a frost with a minimum of 28 degrees; here snow melted as it fell and there was no damage, but we understand there was damage in outlying districts. The worst of the storm was east of Broadview; the thermometer recorded 21·5 on the 16th; end of month bright and warm. *Prince Albert*—Harvesting and threshing very much delayed by unsettled weather. *Medicine Hat*—Cloudy, dull weather during September with low temperatures, harvest work kept back to some extent by frequent cold showers. *Qu'Appelle*—Grain all cut and stacked; threshing commenced; yield very good and quality better than expected. *Battleford*—Grain all cut, majority of it very good, balance slightly touched by frost and considered No. 2; hay plentiful.

OCTOBER.—October has proved a delightful month, particularly following the cold, gloomy weather of the previous three months. Lots of sunshine and dry winds have cured the grass almost to perfection, and the range stock have materially improved and will go into winter in very good shape. Threshing operations have shown good results, with a very good yield and a good sample. Fall wheat has been a very full crop and will be more largely sown in future years; roots and vegetables

are a very plentiful crop and of good quality; pansies and other hardy flowers are still blooming in the gardens. *Battleford*—The month has been very dry and prairie fires have done damage; threshing is not completed yet, the yield is fairly good but the quality of the wheat is considerably damaged. *Prince Albert*—Operations very much retarded by unfavourable weather beginning of month, but now progressing favourably. *Swift Current*—Exceptionally fine month, some very warm days. Large area of pasture burned by prairie fires; stock in good condition. *Medicine Hat*—Fine open weather during October; frequent dry winds have caused some destructive prairie fires. Cattle shipments continue slow in the district. *Qu'Appelle* — Harvesting progressing rapidly owing to fine weather, considerable grain being marketed.

NOVEMBER.—Unseasonably fine weather prevailed throughout the North-West during the first ten days, but on the 14th zero temperature had been recorded in the more northern districts. On the 18th twenty below zero was recorded at Calgary. After the 25th comparatively mild weather became general and continued to the close of the month. No severe wind storms occurred. *Calgary*—The weather for the first half of November was very fine and cattle on the range put on a lot of beef. After the 15th the temperature ranged from zero to 20 degrees below for about ten days, when better conditions prevailed and the six inches of snow that fell during the cold snap gradually disappeared. Cattle are all looking well and ranch men, with good pasturage and a large quantity of hay in stock, are anticipating a good year. *Medicine Hat*—Weather during November was cold and wintry with some very low temperatures. Range stock in good condition. Feed plentiful. *Qu'Appelle*—Grain coming in freely, prices good; sample not as good as previous years. *Battleford*—Sleighing very poor. *Prince Albert*—Sleighing very bad. Timbering very much hindered by lack of snow.

DECEMBER.—The chief characteristics of the December weather were phenomenal mildness in the more western districts. *Calgary*—December has been probably the most pleasant month of 1903. Lots of bright sunshine, very little wind, practically no snowfall and only two cold snaps which lasted only a short time. Cattle are quite as fat as on October 1st, and no hay has yet been fed. Prairie fires have spread over parts of the country, but, unless in one or two districts, no great damage has been done. During the night of the 23rd the phenomenon of a December rain occurred and the 24th was very much like a spring morning. On Christmas and the following day cricket and tennis matches were played, the contestants appearing in summer flannels. *Medicine Hat.*—The weather during December has been exceptionally fine and mild, southerly winds and clear sunshine making it very agreeable. *Prince Albert*—Roads very bad from lack of snow.

GENERAL REMARKS.

While in some localities a good deal of wheat was in the ground by April 30th, wheat seeding in the Territories generally was not completed before May 15th. Spring in the large grain growing districts was generally cold, dry and backward, but June weather was most favourable. Unfortunately the latter part of the season was characterised by much rain and an absence of the usual sunshine and warmth, which hindered early ripening. Everything indicated one of the heaviest crops that the Territories ever produced and this was to a considerable extent borne

out by the results of threshing as will be seen on referring to Table No. VI. Unfortunately a sharp frost, which was general throughout the Territories on the night of September 4th, caught the large portion of the grain which was still unripe, and seriously affected the grades. As an offset to this the autumn weather proved dry and bright and entirely favourable to threshing operations. The frosting of much of the crop was to some extent compensated for by satisfactory prices and while no doubt some farmers, who rely entirely on wheat, suffered more or less severely, there does not appear to be any feeling of discouragement abroad in the community generally.

HAIL STORMS.

Slight hail storms occurred in parts of Eastern Assiniboia in the latter part of July and at intervals throughout August. A hail storm which caused considerable damage in a narrow strip of country occurred in the vicinity of Saltcoats on August 8th, and one of some severity damaged crops, especially oats, in the vicinity of Lacombe on August 29th. Damage was also caused by hail in the vicinity of Innisfail on August 24th and about the same time several more or less severe storms occurred in the country south and south-east of Calgary. The Moose Jaw district, however, suffered most severely from hail storms. A bad one occurred on July 25th and a very severe one indeed on August 16th. It is estimated that at least 25,000 acres of crop were damaged to the extent of about 25 per cent. of the expected yield. It must be apparent from what has been said in this and previous reports under this head that the occurrence of hail storms is not confined to particular localities, but on the other hand that one part of the country is just as liable to have them as any other. It is worth noting in this connection that the Edmonton district, which suffered so severely from hail in 1902, was practically entirely free from damage from this source in 1903. Under these circumstances there is only one businesslike course to be taken by the grain growing farmer of the Territories, and that is to insure his crops.

HAIL INSURANCE.

While this is a matter that does not come within the purview of the administrative work of this department (as being almost entirely one of finance it is therefore appropriately dealt with by officials of the Treasury Department), it is one which is so intimately connected with successful farming operations in the Territories that some reference to it will not be here out of place. In the 1901 session of the Legislative Assembly the Government, having regard to the general feeling of dissatisfaction which existed with the methods of hail insurance available at that time, brought down a measure which passed the House as The Hail Insurance Ordinance to be effective on and after January 1st, 1902. By this Ordinance the business of hail insurance was placed entirely in the hands of the Government and the administration of it was given to the Territorial Treasurer who was empowered to enter into contracts to indemnify against loss or injury to growing crops by hail to an amount of $4.00 for each and every acre insured. The Ordinance provided a simple form of contract; all that it was necessary for an applicant to do was to make application to the department in the form provided by the Ordinance

accompanied by the sum of ten cents for every acre to be covered by insurance. Upon acknowledgment of receipt of these by the Minister the contract was considered in force. Insurance under this Ordinance could be effected on growing crops of wheat, oats, barley and flax. It was provided also that, if it should appear that the payments made by applicants for insurance were not sufficient to cover the expenditures, an assessment might be made under authority of Order in Council at a rate not exceeding 10 cents per insured acre, and that where no legislative provision had been made for so doing, or where any provision had proved insufficient to meet the liabilities incurred under the Ordinance, the deficiency might be made good out of the General Revenue Fund of the Territories. The Ordinance also provided for appraisement of damage done by hail, for proportional payment for partial damage of crops and for arbitration of disputed appraisements.

In the estimates for 1901 a small appropriation was made for commencing work under the Ordinance. As will be seen from the accompanying statement the first year's business was not exactly a financial success, for, while the fees paid into the Treasury under the Ordinance amounted to the sum of $5,881.13, the indemnity that had to paid was $12,862.38. As this legislation could be regarded to a considerable extent as experimental, the results, while disappointing, were not regarded as disastrous. It was felt that, with better knowledge of the actual conditions under which business had to be done some re-adjustment of rates and more hearty co-operation on the part of those whom the Ordinance was intended to benefit, better results might be anticipated. Accordingly, at the first session of 1903, a new Ordinance was passed repealing the Ordinance of 1901. By this Ordinance the benefits of insurance were extended to speltz, a considerable amount of which was by that time being grown, and an application fee of 50 cents was required over and above the insurance fee of 15 cents for every acre. The other provisions of this Ordinance, with some minor exceptions, do not differ materially from those of the original one. It is satisfactory to note that the Government's confidence in the ultimate success of its hail insurance scheme has to a large extent been justified by the results achieved in 1903. Below is a statement which shows clearly what has been accomplished and also that there is room for considerable expansion in this direction.

Comparative statement for 1902 and 1903 of operation of The Hail Insurance Ordinance of the North-West Territories.

	1902	1903
No. of contracts	675	1,643
No. of claims for indemnity	85	127
ACREAGE INSURED.		
Wheat	40,645⅝	57,683
Oats	15,546⅞	52,904¼
Barley	1,941	11,964
Flax	2,520	3,049
Speltz		201
Totals	60,653½	125,801¼
Acreage of above wholly covered	56,897½	109,578¼
Acreage of above partially covered	3,756	16,223
Fees paid into Treasury (at rate of 10 cents per acre wholly covered in 1902 and 15 cents in 1903)	$ 5,881.13	$17,635.14

Expenses:	1902	1903
Clerical services	1,763.50	1,147.25
Postage and telegrams	118.02	149.60
Books, stationery, etc.	324.15	313.85
Examiners' fees	369.04	910.36
Balance of expenses of 1902 paid in 1903	166.99	
Outside estimate of expenses of 1903 to be paid in 1904		325.00
Indemnity	12,862.38	16,544.12
Totals	$15,604.08	$19,390.18

	Acreage under crop.	Areage insured.	Percentage of total acreage insured.
1902	989,637	60,653½	6·1
1903	1,383,434	125,801¼	9·9

It will be noted that the acreage insured in 1903 is double that of 1902, notwithstanding the increase by fifty per cent. in the amount of the premium payable to the Treasurer with the application. It is to be hoped that this increase will continue until a sufficiently large proportion of the area under grain in the Territories is insured to place the working of the Ordinance upon a self sustaining basis.

In 1902 the Treasury Department attempted to reach the farmers through notices in postoffices, but the faint interest shown stamped that method as a failure. This led the department in 1903 to put itself into communication with every justice of the peace, postmaster, local improvement district overseer and school district treasurer in the Territories with a view to securing the widest interest in this subject of hail insurance. At every institute meeting the objects of the Ordinance were explained by the speakers, but it cannot be said that the response has been at all such as might reasonably have been expected. The ordinary methods of carrying on such a business as hail insurance are not open to a Government, so that no plausible canvassers are employed to write up insurance. It is reasonably expected that if insurance against hail is a public necessity those whose interest it is to protect themselves will take advantage of a proposition which offers absolute security for the payment of the amount contracted for at the minimum cost, even, as a glance at the above figures will show, at less than cost. In the working out of such a scheme it is inevitable that principles laid down for guidance at its inception should show themselves susceptible of modification, and much has been learnt during the past two years that it is confidently expected will tend to make the North-West Government's system of insurance against hail one of the most popular features of its administration.

I.—ANNUAL Precipitation from 1894 to 1903, inclusive.

STATION	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	Years observed	Average inches
Prince Albert	9·30	14·14	19·64	19·47	15·79	29·88	22·40	19·46	20·02	16·87	11	17·93
Battleford	13·47	12·01	12·93	16·53	14.24	18·42	20·41	16·57	13·49	16·06	12	14·88
Edmonton	16·13	14·68	15·24	14·55	10·91	20·89	27·82	27·53	20·66	20·80	13	18·44
W. Beaver Hills	..	..	..	..	..	15·15	22·09	26·41	25·39	22·13	..	5	22·28
Calgary	11·71	15·12	16·05	20·58	15·58	26·15	17·57	22·31	34·57	21·77	13	17·69
Macleod	..	..	12·73	12·77	13·58	17·76	10·08	12·21	..	..	6	13·18
Medicine Hat	11·52	14·13	18·18	17·27	15·90	22·28	22·05	20·63	13·68	10·24	13	15·83
Swift Current	9·66	12·29	14·11	16·24	15·25	19·38	14·60	18·48	17·64	16·96	13	16·40
Chaplin	4·39	5·58	9·66	6·56	6·40	5·89	4·77	4·42	9·22	..	10	5·98
Regina	..	..	18·90	9·32	13·28	13·22	11·54	21·51	14·35	16·09	8	14·77
Qu'Appelle	12·52	15·29	22·10	12·56	21·65	19·25	16·52	26·47	24·17	20·09	13	18·61
Indian Head	..	..	..	16·15	20·63	14·33	15·46	23·26	14·73	19·05	7	17·59

II.—MONTHLY PRECIPITATION.—1903.

STATION	JAN	FEB	MAR	APR	MAY	J'NE	J'LY	AUG	SEP	OCT	NOV	DEC	TO'L
Abernethy			0·03										
Alameda					4·57	2·61	2·91	8·98	0·60				
Battleford	0·89	0·04	0·82	1·15	3·70	2·00	2·50	2·25	1·01	0·34	0·79	0·57	16·06
Bruederheim	0·40	0·50	0·52	0·28	0·46	2·22	5·78	2·13	1·03	0·58	0·70	0·35	14·95
BeaverHills, W.	0·72		0·89	1·38	1·37	5·13	4·78	2·59	1·45	0·81	0·76	0·58	
Bon Accord		0·33	0·73	2·25	1·32	1·98	6·11	3·03	1·27	0·60			
Calgary	0·05	0·50	1·00	0·46	4·25	2·05	4·10	7·70	1·81	R	0·60	0·25	21·77
" Exp. Farm	0·12	0·55	0·95	0·37	2·37	2·12	4·59	6·67	3·12		0·42	0·00	
Cardston		0·00	1·65			1·18	4·54	4·40	0·96				
Chaplin	0·00	0·30	0·58	0·26	0·81	0·18		0·68	0·03	0·00	0·50	0·00	
Crane Lake		0·30	0·48	0·09	3·57	1·37	2·41	2·42	1·08	0·11	0·53	0·25	
Crescent Lake	0·81	0·30	0·47					2·44	1·65	0·63	1·68	1·01	
Coutts					1·91	1·02	1·12		0·73	0·10	1·00		
Didsbury	0·00	0·50	1·20	0·61	3·01	0·81	4·43	8·36	2·18	0·00	0·40	0·20	21·80
Dirt Hills		0·25	0·45				1·40	5·87	1·51	0·63	0·70	0·80	
Duck Lake	0·85			0·35	1·77	0·63	2·82	7·14					
Edmonton	0·97	0·26	0·90	1·20	1·21	4·68	3·45	4·33	1·12	1·21	0·86	0·61	20 80
Estevan	0·67	0·49	1·00	1·65	3·70	3·88	1·51	6·74	1·65	0·25	0·51	0·98	23·03
Foxleigh							4·84	3·26	1·00	1·08	0·50	1·17	
Gatesgarth				0·94	3·85	1·82	5·00	3·74	0·99	0·86	0·65	0·40	
Gleichen	0·08	0·25	0·28	R	1·39	0·87	2·91	5·53	1·08	0·12	0·30	0·37	13·18
Grenfell		0·00	1·60			0·96	2·35	4·44	1·00	0·26		0·15	
High River	0·10	0·55	0·65	0·65				4·18	1·46	0·10	0·30	0·20	
Indian Head	0·40	0·10	0·42	0·11	4·08	1·29	4·23	4·16	1·26	0·40	1·10	1·40	19·05
Innisfail	0·08	0·25	0·61	0·04	1·69	3·27	3·31	6·05	2·38	0·04	0·25	0·20	18·17
Knee Hill			0·03		0·59			4·74	1·40	0·00			
Lacombe					5·09	3·32			0·97	1·98	0 47		
Lethbridge	0·62	0·79	0·89	0·33	2·95	1·12	1·86	3·21	1·60	0·17	0·58	0·70	14·82
Manor			0·20	0·50	3·10	1·80	3·83	5·50	1·60	0·42		0·40	
Melfort	0·25		1·20	0·74		1·44	7·79	1·44	1·85		1·40	1·45	
Moose Jaw	0·00		0·10	1·25		1·45	3·61	3·26		0·33			
Moosomin		0·42	1·16		4·61	2·42		6·43			0·55	0·30	
Macleod							1·10	2·34				*	
Medicine Hat	0·25	0·34	0·25	0·45	4·19	R	1·39	1·80	0·65	0·05	0·45	0·42	10·24
Nutana		*		0·83	3·24	0·23	5·44	3·71	1·34	0·30	0·02		
Newhope					3·14		2·17	6·68					
Onion Lake							7·44	1·40	2·23		0·56	0·36	
Pakan	0·67	0·40	0·13	0·41	1·11	2·59	6·03	1·83				1·08	
Pincher Creek	0·47	0·15	1·37	1·12	1·88	0·68	4·65	4·47	1·67	0·00		0·23	
Prince Albert	0·59	0·21	1·55	1·41	2·08	1·07	2·96	2·22	2·17	1·05	1·16	0·40	16·87
Qu'Appelle	1·10	0·12	0·42	0·39	3·86	1·46	4·26	5·03	0·92	0·47	1·10	0·96	20·09
Red Deer	0·35	0·47	1·32	1·21	1·47	4·08	4·27	5·92		0·09	0·32		
Regina	R	*	0·00		2·89	0·83	5·34	3·47		0·31	0·45	0·10	
Regina (2)	0·23	*	0·19	1·07	3·14	1·36	4·74	3·27	0·80	0·87	0·63	0·60	16·90
Saltcoats		0·15	0·35	0·36	3·73	0·82		3·24	2·24	0·50	0·50	0·15	
Stirling						0·90	1·22	2·95	1·10	0·00	0·60	1·00	
Swift Current	0·70	0·56		0·85	3·23	3·26	4·11	3·04	1·04	0·14	0·42	0·61	
Threehills Ck.		0·58	0·79			2·20	3·21	4·61	1·31		0·36	0·74	
Wetaskiwin	0·51	0·53	1·64	2·31	1·33	1·74	4·75	4·01	2·41	0·65	0·49	0·55	20·92
Whitewood										0·45	0·45	0·25	
Willow Bunch	0·28			0·57	4·37	0·83	6·53	9·66	0·50		0·73	0·63	
Wevburn	0·70	*	2·10	1·20	5·02	1·93		5·51					

* Trace of Snow. R Rain but amount too small to measure.

III.—TEMPERATURE, 1903.

STATION	JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE			
	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min
Alameda	7·4	52·0	—26·0	10	—0·6	38·0	—40·0	15	9·6	45·0	—28·0	21	33·8	70·0	8·0	1	44·9	87·0	10·0	1	56·6	85·0	30·0	21
Banff	18·3	43·2	—11·4	26	15·8	39·3	—23·1	14	16·5	49·3	—31·8	13	32·3	57·3	5·2	12	43·0	80·8	25·2	10	56·0	81·1	31·7	29
Battleford	2·7	42·0	—41·0	27	5·4	36·0	—46·0	15	8·5	46·0	—29·0	13	36·2	69·0	6·0	5	49·9	88·0	18·0	9	61·7	84·0	32·0	9
Bon-Accord					16·6	49·2	—40·5	14	16·0	51·2	—23·0	12	34·9	60·0	11·5	1	47·6	88·6	22·4	9	58·3	83·6	29·5	9
Chaplin	—1·9	30·0	—32·0	10	4·7	42·0	—37·0	13	11·6	50·0	—20·0	12	41·6	75·0	10·0	12	47·7	79·0	24·0	7	66·6	83·0	45·0	10
Calgary	21·6	51·0	—12·8	28	21·6	47·0	—18·0	14	14·6	48·0	—25·0	13	37·5	66·0	16·0	28	46·1	84·0	23·0	21	57·9	81·0	34·0	24
Calgary Exp. Stn	21·2	51·9	—16·0	28	20·7	46·9	—23·2	14	15·4	49·9	—27·7	14	36·9	69·5	14·0	28	43·9	80·4	21·0	15	56·4	82·9	32·6	29
Cardston					22·9	58·0	—20·0	15	21·9	55·0	—25·0	12									58·9	84·0	38·0	14
Crane Lake					10·5	42·0	—32·0	15	16·4	53·0	—24·0	13	41·3	72·0	10·0	28	48·8	91·0	23·0	19	61·5	87·0	34·0	9
Crescent Lake	0·8	35·0	—37·0	30	—1·3	32·0	—46·0	14	9·9	43·0	—28·0	19												
Didsbury	24·2	55·0	—10·0	26	22·8	51·0	—25·0	14	17·6	62·0	—18·0	9	35·4	65·0	8·0	10	45·3	85·0	22·0	18	58·6	89·5	34·0	24
Duck Lake	—2·6	38·0	—41·0	28	3·9	39·0	—48·0	15	3·7	46·0	—30·0	13	35·9	73·0	—2·0	1	47·2	91·0	17·0	1	57·5	80·0	30·0	20
Estevan	6·7	37·5	—22·0	11	0·2	31·0	—38·5	16	12·6	51·0	—18·0	20	41·7	73·0	15·0	29	50·3	89·0	26·0	2	60·5	83·2	35·2	10
Edmonton	12·8	47·0	—28·5	29	17·6	49·0	—36·5	14	16·9	50·0	—30·0	12	37·7	63·0	12·5	1	49·2	90·0	21·5	1	60·3	84·0	32·5	9
Gatesgarth	4·9	37·0	—28·0	29	2·9	40·0	—43·0	15	12·3	60·0	—25·0	19	39·3	77·0	9·0	28	49·2	93·0	20·0	9	59·1	85·0	28·0	10
Gleichen																								
Grenfell					0·8	33·0	—11·0	15	14·4	54·0	—22·0	14												
High River	22·5	50·0	—15·0	27	21·3	49·5	—20·5	13	11·3	49·0	—31·0	14	38·6	67·0	11·0	2					58·3	81·0	31·0	10
Indian Head	4·8	37·0	—31·0	12	1·6	34·0	—42·0	15	12·6	55·0	—25·0	19	39·9	75·0	10·0	28	50·2	92·0	21·0	5	60·1	84·0	30·0	10
Knee Hill									11·8	53·0	—39·8	13					42·6	85·0	16·0	7				
Lethbridge	23·8	56·4	—20·2	29	22·3	54·6	—20·2	15	18·7	54·9	—32·4	13	42·2	76·8	16·9	28	48·6	80·7	26·0	21	62·2	87·6	36·8	10
Manor	2·9	33·0	—29·0	30	—1·4	34·0	—40·0	15	11·3	45·0	—20·0	20	37·8	69·0	12·0	29	48·4	84·0	23·0	2–10	57·7	83·5	35·0	22
Macleod																								
Medicine Hat	18·9	46·0	—22·8	29	16·7	42·0	—27·8	15	18·3	58·0	—24·0	13	44·1	78·0	15·7	5	52·4	92·0	28·7	20	64·3	87·0	39·7	9
Melfort	0·7	39·0	—35·0	27	—0·5	33·0	—40·0	14	7·0	42·0	—19·0	13	32·7	67·0	2·0	2					57·7	78·5	36·0	9
Moose Jaw	6·4	38·0	—27·0	29	4·9	37·0	—44·0	15	13·1	56·0	—19·0	14	38·1	73·0	10·0	2					59·3	84·0	26·0	10
Moosomin					—0·2	36·3	—42·0	14	13·6	44·9	—25·0	20					49·1	85·0	25·0	2	58·2	80·0	36·5	22
New Hope																								
Oonikup					—1·4	38·0	—49·0	14																
Onion Lake																								
Pincher Creek	25·1	52·0	—18·0	5	20·8	47·0	—22·0	15	16·5	50·0	—25·0	13	38·3	72·0	10·0	5	45·9	79·0	25·0	20	56·1	80·0	25·0	9
Prince Albert	2·5	45·4	—32·5	27	3·8	39·8	—44·5	15	9·0	49·5	—23·0	14	33·7	68·5	3·5	2	47·2	90·0	16·5	1	59·4	85·0	34·0	10
Qu'Appelle	5·9	37·0	—24·2	11	4·5	36·5	—37·6	15	14·0	54·8	—20·0	13	40·2	72·1	6·0	29	50·0	88·0	22·0	1	59·7	84·0	35·3	9
Red Deer	19·9	53·0	—14·9	26	21·4	49·0	—25·0	14	17·6	49·0	—13·5	9	37·2	67·0	16·7	11	48·3	82·5	27·9	9	59·7	82·4	28·8	10
Regina	3·8	38·0	—29·0	29	0·5	39·0	—47·0	15	9·6	50·0	—27·0	19	38·0	74·0	5·0	28	57·2	82·5	27·9	9	57·2	82·5	39·2	8
Saskatoon	—0·1	37·5	—37·4	27	—0·2	35·0	—47·6	15	5·1	40·7	—29·0	14	35·2	74·7	1·5	5	50·3	92·0	20·0	9	58·7	84·0	23·0	10
Swift Current	15·1	42·0	—18·0	29	10·5	38·0	—34·0	15					42·3	76·0	15·0	28	46·8	92·0	14·0	1	59·2	87·3	26·0	9
Threehills Creek	16·5	45·2	—22·0	29		48·2	—26·5	13		56·3							49·3	91·5	13·0	1	61·7	86·0	35·0	9
Wetaskiwin	12·0	45·0	—26·0	28	10·6	46·0	—30·0	15	13·2	47·0	—26·0	13	36·4	65·0	11·5	1	47·7	84·0	27·0	8	58·9	85·0	36·0	9
																						89·0		

III.—TEMPERATURE, 1903.—*Continued.*

STATION	JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min	Mean	Max	Min	Date of Min
Alameda	58·3	90·0	25·0	16	56·7	86·0	35·0	6	43·2	75·0	18·0	14	...	...	...	..	...	..	..	..	...	...	...	...
Banff	53·5	79·4	35·1	1	53·4	78·4	37·2	12	43·5	65·4	21·0	30	41·3	61·3	20·1	14	22·7	57·4	—25·3	17	24·3	45·3	—12·4	12
Battleford	60·8	80·0	42·0	11	58·6	82·0	41·6	9	46·1	78·0	28·0	15	43·4	74·0	19·0	4	19·8	69·0	—14·0	19	13·2	40·0	—26·0	12
Bon Accord	57·2	76·7	36·5	1	55·8	77·5	33·0	14	43·8	73·8	24·0	30	41·9	71·5	17·8	4	...	..	...	..	...	...	...	..
Chaplin	...	...	...	...	58·8	84·0	38·0	25	44·4	78·0	25·0	25	42·6	68·24	21·0	29	28·2	70·0	—12·0	16	13·5	40·0	—24·0	11
Calgary	56·8	81·0	38·0	1	55·4	80·0	36·0	4	47·1	76·0	26·0	30	44·6	79·0	18·0	3	21·1	68·0	—20·0	18	26·2	53·0	—22·0	12
Calgary Exp. Stn	54·8	80·0	35·0	2	55·7	79·9	32·0	18	45·8	75·9	22·6	30	42·7	78·0	12·0	3	21·0	68·9	—22·5	17	25·0	56·9	—20·9	12
Cardston	58·8	86·0	32·0	8	57·1	83·0	38·0	30	49·6	73·0	28·0	13	...	.	...	..	...	...	...	..	...	...	...	..
Crane Lake	63·0	94·0	42·0	8	62·1	88·0	40·0	10	49·4	73·0	24·0	14	47·3	9·0	18·0	4	25·1	63·0	—21·0	18	25·1	64·0	—19·0	13
Crescent Lake	...	...	...	...	36·7	82·0	40·0	6	45·1	75·0	20·0	23	42·5	74·0	23·0	17	19·7	71·0	—21·0	19	5·8	39·0	—32·0	12
Didsbury	61·1	89·0	38·0	1	60·1	89·0	40·0	31	47·9	81·0	27·0	30	48·6	81·0	16·0	3	28·1	73·0	—16·0	17	33·2	59·0	—15·0	12
Duck Lake	58·4	84·0	35·0	3	55·8	80·0	32·5	27	...	76·0	22·0	26	...	....	...	..	...	...	...	..	...	...	...	..
Estevan	62·7	91·2	36·0	30	60·4	89·0	45·0	6	48·5	89·0	26·0	30	45·3	71·0	18·0	17	27·9	70·0	—15·0	19	13·8	59·5	—21·0	12
Edmonton	59·2	78·0	41·0	10	57·3	77·0	37·0	14	46·6	76·0	27·0	30	46·2	78·0	19·0	4	23·5	74·0	—15·0	18	25·0	47·0	—17·0	13
Gatesgarth	60·5	86·0	40·0	12	59·2	86·0	40·0	6	46·4	82·0	21·0	16	43·3	77·0	14·0	4	22·2	76·0	—25·0	19	15·0	38·0	—24·0	12
Gleichen	62·1	115·0	40·0	15	57·5	82·0	39·0	12	48·3	77·0	25·0	30	44·0	76·0	13·0	4	22·0	70·0	—15·0	18	26·0	60·0	—16·0	13
Grenfell	59·8	86·0	39·0	29	58·7	84·0	40·0	6	45·5	75·0	23·0	13	44·5	73·0	17·0	17	...	....	....	..	7·4	36·0	—30·0	12
High River	...	...	...	...	57·2	81·0	36·0	5	48·7	76·0	27·5	30	44·8	74·0	16·0	5	25·2	67·0	—25·0	18	28·9	60·0	—14·0	12
Indian Head	60·7	86·0	35·0	31	58·6	83·0	40·0	9	46·2	76·0	24·0	27	43·0	75·0	11·0	17	21·2	73·0	—23·0	19	9·6	39·0	—27·0	12
Knee Hill	...	...	...	...	54·7	81·0	34·0	4	44·1	75·0	17·8	30	39·4	78·0	12·0	4	17·4	67·0	—30·0	18	20·5	57·0	—30·3	13
Lethbridge	62·4	92·8	38·5	8	60·3	92·7	43·2	25	51·5	79·6	26·5	30	49·4	78·6	22·8	4	27·4	71·0	—24·7	18	32·3	63·8	—15·1	14
Manor	59·8	89·0	35·0	30	59·2	89·0	42·0	22	45·7	75·0	24·0	27	42·5	70·0	17·0	17	....	...	....	..	9·0	40·0	—28·0	13
Macleod	61·0	...	...	...	59·5	87·0	43·0	25	....	....	....	..	....	....	....	..	23·8	64·0	—38·0	19	31·5	77·0	—17·0	14
Medicine Hat	65·4	93·0	42·7	8	63·5	95·0	45·7	28	54·1	84·0	30·7	26	50·2	83·0	21·0	4	26·8	76·0	—25·8	18	29·7	65·0	11·5	12
Melfort	58·1	99·0	38·0	30	56·7	77·0	35·0	22	43·3	70·0	24·0	23	....	....	....	..	19·2	68·0	—10·0	19	10·0	40·0	27·0	12
Moose Jaw	59·8	89·0	41·0	12	58·5	84·0	43·0	9	....	..	....	..	43·4	74·0	18·0	17	20·8	72·0	—22·0	19	12·2	44·0	—25·0	12
Moosomin	...	...	...	...	58·1	85·0	41·0	6	....	....	....	..	....	....	....	..	20·0	74·0	—14·0	19	6·5	42·0	—28·9	12
New Hope	....	89·0	30·0	30	56·1	84·0	37·0	6	....	....	....	..	....	....	....	..	16·9	74·0	—21·0	19	. ..	....	...	..
Oonikup	...	...	...	...	...	...	...	...	...	...	...	...	....	....	....	..	...	...	...	...	...	...	...	...
Onion Lake	57·8	75·0	38·5	10	56·0	77·8	35·0	24	43·0	71·2	27·0	13	....	...	....	..	18·5	56·8	—12·0	17	14·4	54·8	—25·0	11
Pincher Creek	57·8	86·0	38·0	8	56·3	82·0	35·0	27	47·6	73·0	27·0	14	47·3	71·0	20·0	3	26·0	66·0	—23·0	17	31·3	57·0	—10·0	14
Prince Albert	58·9	81·6	37·5	4	57·0	76·5	37·5	28	40·0	70·8	24·2	27	41·7	67·8	20·0	17	19·9	65·5	—17·5	19	8·9	43·5	—25·5	12
Qu'Appelle	60·6	84·7	38·3	31	58·9	82·8	39·1	9	47·0	76·5	24·5	27	45·5	74·1	19·0	17	22·2	73·4	—10·0	17	11·6	41·7	—27·2	12
Red Deer	56·4	77·5	40·3	10	54·4	74·8	40·0	30	...	....	....	..	45·1	74·0	20·0	3	23·4	65·6	—13·0	18	...	...	...	..
Regina	59·9	83·0	40·0	31	58·9	84·0	39·0	9	47·0	78·0	21·0	30	43·5	78·0	15·0	4	21·2	73·0	—23·0	19	10·6	42·0	—30·0	12
Saskatoon	59·0	89·3	37·8	12	56·2	80·0	37·5	26	44·2	77·6	21·0	15	41·8	75·1	15·5	4	19·8	70·7	—20·0	19	10·8	41·9	—26·2	13
Swift Current	62·6	90·0	43·0	8	60·3	82·0	44·0	10	49·3	81·0	28·0	27	46·9	76·0	19·0	4	23·6	77·0	—17·0	18	21·5	54·0	—24·0	13
Threehills Creek	....	85·0	38·0	28	61·4	80·5	38·0	12	45·0	74·0	19·5	30	....	....	....	..	18·2	67·5	—31·0	18	17·7	54·0	—32·0	12
Wetaskiwin	57·9	77·0	40·0	9	56·2	77·0	35·0	30	44·7	74·0	25·0	15	42·0	72·0	18·0	4	20·7	70·0	—16·0	17	24·1	46·0	—16·0	13

IV.—LATITUDE, Longitude and Elevation of Meteorological Stations in the North-West Territories.

STATION	LAT. N.		LONG. W.		ELEVATION ABOVE SEA LEVEL	STATION	LAT. N.		LONG. W.		ELEVATION ABOVE SEA LEVEL
	Deg	Min	Deg	Min	Feet		Deg	Min	Deg	Min	Feet
Alameda	49	15	102	17	1,892	Macleod	49	44	113	24	3,128
Banff	51	10	115	35	4,542	Manor	49	43	102	2	2,064
Battleford	52	41	108	20	1,620	Medicine Hat	50	1	110	37	2,161
Calgary	51	2	114	2	3,389	Melfort	52	47	104	30	1,515
Chaplin	50	27	106	40	2,202	Moose Jaw	50	21	105	35	1,745
Crane Lake	50	0	109	50	2,516	Moosomin	50	0	101	37	1,884
Coutts	49	1	111	58	3,463	Oonikup	53	30	101	20	.....
Didsbury	51	39	114	8	3,300	Pincher Creek	49	11	114	0	3,750
Duck Lake	52	54	106	9	1,645	Prince Albert	53	10	106	0	1,432
Edmonton	53	33	113	30	2,158	Qu'Appelle	50	30	103	47	2,115
Estevan	49	12	103	4	1,858	Red Deer	52	15	113	30	2,795
Gatesgarth	50	20	105	0	1,879	Regina	50	27	104	37	1,885
Grenfell	50	23	102	53	1,957	Saltcoats	51	1	102	8	1,714
High River	50	35	113	52	3,394	Saskatoon	52	15	106	30	1,571
Indian Head	50	28	103	40	1,924	Swift Current	50	20	107	45	2,439
Innisfail	52	2	113	57	3,087	Wetaskiwin	53	00	113	20	2,480
Kneehill	51	55	103	0	.....	Weyburn	49	42	103	54	1,847
Lethbridge	49	40	112	50	2,982	Whitewood	50	20	102	15	1,966

V.—MEAN Daily Temperature, Total Precipitation and Crop Yields, by Districts 1898—1903.

DISTRICT		MEAN DAILY TEMPERATURE Degrees Fahr.				TOTAL PRECIPITATION Inches				YIELD PER ACRE Bushels		
		Sept.-Oct.	Nov.-Mar.	April-June	July-Aug.	Sept.-Oct.	Nov.-Mar.	April-June	July-Aug.	Wheat	Oats	Barley
1	1898	51·4	7·58	48·0	61·6	1·10	3·45	5·10	5·22	15·93	19·63	24·16
	1899	41·9	4·63	47·3	62·4	6·06	5·00	7·89	2·96	15·73	30·50	20·55
	1900	44·5	10·33	55·6	65·2	2·62	2·75	1·53	5·82	6·92	19·22	23·64
	1901	47·4	8·20	50·3	63·6	5·22	4·90	7·44	5·90	20·58	38·04	30·05
	1902	46·5	14·90	17·4	62·8	1·66	5·28	3·32	2·07	20·51	41·83	25·60
	1903	45·5	8·27	47·8	59·1	0·80	3·90	6·99	9·44	19·40	28·83	25·30
2	1901	....	....	52·0	63·4	....	....	7·59	2·90	21·94	42·17	19·00
	1902	45·6	15·69	47·7	62·6	1·76	8·20	3·57	1·90	24·64	39·27	28·02
	1903	46·6	8·38	49·6	60·2	0·67	3·01	7·16	8·25	14·13	37·50	23·33
3	1898	50·5	7·74	48·1	62·6	1·04	1·50	3·60	6·66	16·00	27·99	22·99
	1899	43·1	4·14	....	....	1·54	....	...	....	16·49	26·28	20·35
	1900	....	8·25	54·7	62·9	...	2·85	1·20	9·10	7·91	9·32	9·96
	1901	47·2	9·38	51·2	63·5	6·12	3·60	9·75	4·68	24·50	32·38	27·94
	1902	44·5	12·20	45·9	62·7	2·48	2·65	11·78	2·29	20·93	36·33	27·27
	1903	42·8	7·51	48·8	59·1	0·44	4·14	5·54	8·89	17·87	29·84	24·30
4	1898	50 2	7·77	49·4	63·4	0·82	3·70	5·82	6·58	18·17	26·05	19·59
	1899	43·5	4·05	45·6	62·5	4·72	12·15	7·95	2·04	18·75	29·86	23·15
	1900	44·6	11·50	55·2	63·4	3·10	3·45	2·22	5·36	7·65	14·70	15·11
	1901	47·2	9·36	51·5	64·4	3·90	4·80	8·79	6·30	28·47	60·72	35·12
	1902	45·8	14·60	46·8	62·5	5·51	5·45	9·71	2·09	23·13	35·28	28·41
	1903	44·6	8·83	49·4	59·2	0·56	5·54	3·96	6·79	22·62	33·35	23·16
5	1898	50·6	7·97	50·5	63·5	1·12	3·10	3·48	4·92	20·99	24·05	18·99
	1899	44·0	4·19	45·5	62·2	2·44	11·90	8·31	2·60	26·65	35·19	21·33
	1900	44·8	14·00	55·9	63·8	1·96	3·40	2·43	4·40	11·81	15·45	10·03
	1901	45·7	9·80	47·8	64·6	3·29	3·25	7·23	6·02	28·78	52·05	41·91
	1902	45·3	14·32	47·0	61·8	3·48	1·72	8·81	2·57	25·20	30·18	32·56
	1903	44·8	6·65	48·9	59·7	0·50	0·61	6·98	7·66	19·55	38·21	25·57

V.—MEAN Daily Temperature, Total Precipitation and Crop Yields, by Districts 1898—1903.—*Continued.*

DISTRICT	MEAN DAILY TEMPERATURE Degrees Fahr.				TOTAL PRECIPITATION Inches				YIELD PER ACRE Bushels		
	Sept.-Oct.	Nov.-Mar.	April-June	July-Aug.	Sept.-Oct.	Nov.-Mar.	April-June	July-Aug.	Wheat	Oats	Barley
6.....1898	51·5	15·9	51·1	67·7	3·44	6·20	3·93	4·64	17·85	44·00	36·90
1899	47·2	11·8	48·3	63·3	2·50	4·00	6·30	8·54	36·85	50·82	44·76
1900	49·4	22·1	57·6	64·7	2·02	2·75	4·32	6·44	32·20	28·82	9·38
1901	47·9	19·9	51·9	66·4	3·30	4·75	7·26	4·52	36·10	45·22	40·70
1902	48·5	23·2	50·5	63·7	3·46	2·66	8·56	3·25	21·60	49·96	42·00
1903	48·8	13·5	51·0	62·3	0·57	2·52	3·26	4·51	18·85	40·50	20·01
7.....1901	....	....	....	....	2·54	4·35	7·67	3·68	25·30	47·26	46·36
1902	44·8	11·0	45·1	60·5	3·41	3·77	9·58	3·29	24·01	44·20	29·45
1903	42·5	5·1	....	56·3	0·55	4·30	4·91	6·58	19·72	34·38	26·19
8.....					*Unsettled*						
9.....1898	47·1	6·44	47·1	62·2	3·52	7·60	3·66	3·70	17·65	18·69	22·00
1899	47·0	1·77	44·1	59·4	3·42	4·05	7·17	10·48	15·27	29·10	21·10
1900	44·2	9·52	53·1	61.2	4·16	3·75	11·37	7·58	17·02	27·86	22·73
1901	45·4	6·69	52·6	62·3	3·14	4·00	7·23	4·82	22·71	38·33	29·52
1902	44·7	11·65	45·7	60·7	3·77	3·03	8·21	5·78	21·42	30·54	28·16
1903	43·0	3·76	46·0	57·5	1·32	4·63	4·75	8·33	16·43	29·18	22·45
10....1898	48·3	5·64	49·4	63·9	2·46	4·05	6·27	2·66	20·33	22·00	30·66
1899	44·4	4·04	46·3	66·7	1·28	2·15	6·69	6·52	17·08	22·50	27·53
1900	45·3	10·90	54·3	61·6	2·66	2·90	6·69	9·44	20·62	24·58	34·22
1901	46·0	10·10	50·7	63·4	2·12	2·75	7·23	4·02	25·08	46·45	37·67
1902	45·9	13·92	48·2	62·5	3·41	2·71	5·75	3·50	22·54	44·67	32·60
1903	46·5	6·24	47·1	61·2	0·55	3·47	6·85	7·02	16·94	27·62	24·76
11.....					*No data*						
12....1898	48·8	14·9	51·3	62·9	1·24	4·45	3·03	2·84	26·10	31·02	46·53
1899	44·1	13·2	46·9	58·7	1·88	2·45	6·90	8·78	25·02	26·46	42·87
1900	40·7	18·1	53·8	57·7	2·22	4·85	9·09	8·08	18·78	24·22	32·15
1901	44·3	21·1	49·2	61·1	4·32	4·05	6·12	1·82	24·88	42·03	35·21
1902	46·3	20·1	48·7	59·9	5·17	3·07	9·87	7·63	17·09	28·97	21·59
1903	46·5	13·3	47·9	58·9	1·50	3·58	6·30	7·99	16·53	29·71	24·73

13....	1898	48·8	14·9	51·3	62·9	....	....	....	....	22·25	28·75	41·25
	1899.....	44·1	10·6	45·8	57·8	....	5·05	8·25	16·00	19·05	31·08	42·96
	1900	45·6	19·8	52·6	56·9	3·16	3·10	9·33	7·32	18·55	27·20	37·11
	1901.....	43·7	22·0	48·0	60·1	5·18	2·82	11·22	8·66	22·69	39·51	35·27
	1902..	46·1	23·2	46·2	58·0	4·72	2·12	12·12	5·60	18·91	30·92	21·41
	1903.....	46·9	18·4	47·1	60·5	1t42	3·93	6·78	10·19	18·71	34·37	30·82
14....	1898.....	45·8	14·1	47·7	62·2	2·54	4·15	2·70	5·26	26·00	34·83	46·50
	1899.....	44·4	11·9	44·0	57·7	1·50	3·35	6·93	13·06	17·70	23·53	44·42
	1900	44·7	21·9	50·6	56·7	3·44	2·50	8·97	5·48	18·01	23·70	37·06
	1901.....	42·8	26·6	47·2	59·1	4·86	3·10	9·84	6·10	14·78	29·50	20·77
	1902.....	43·9	21·5	45·1	58·8	3·28	1·86	12·36	7·04	25·17	32·60	17·02
	1903.....	43·9	19·2	46·1	60·6	1·14	2·26	4·47	11·07	21·00	31·60	23·83
15....	1898.....	47·2	16·8	47·8	62·2	2·06	5·45	5·58	5·26	21·48	35·90	39·66
	1899.....	44·6	14·0	43·9	57·3	0·96	3·35	8·34	11·10	21·31	27·69	41·09
	1900...	45·2	23·9	51·3	57·6	2·54	2·00	6·45	3·92	21·96	31·66	43·11
	1901.....	47·9	23·1	47·2	59·1	4·94	4·00	9·84	4·88	22·60	41·84	33·98
	1902.....	46·6	23·0	45·7	58·2	2·96	3·33	11·87	10·66	24·02	39·27	29·80
	1903.....	46·0	18·2	45·7	56·1	2·03	2·80	4·46	10·46	19·04	37·41	24·75
16...	1898.....	52·4	20·1	51·8	68·8	2·32	5·15	3·57	5·14	26·79	31·58	43·22
	1899.....	48·7	16·0	48·7	63·0	2·10	4·30	6·42	7·50	17·89	23·17	37·15
	1900.....	52·6	24·6	58·1	62·1	3·38	3·35	3·39	4·92	22·65	22·44	35·95
	1901.....	47·2	25·1	49·6	64·9	3·92	4·90	9·54	2·02	24·68	35·87	23·96
	1902.....	48·4	27·5	48·6	60·9	2·13	3·09	13·01	5·54	22·17	36·34	23·35
	1903...	50·3	21·8	49·1	56.7	1·14	3·69	4·36	4·67	21·68	34·57	24·99

CROP STATISTICS.

The sixth annual statistical statement, showing the production, acreage, yield per acre, and average yield per acre, for each crop district and for the Territories as a whole, is herewith presented. This branch of the department's work is one that it is most important to keep in the highest state of efficiency. Letters are being received by the department from all quarters of the globe; from officials of foreign governments; from men eminent in the science of political economy and commercial practice, as well as from corporations, transportation companies and private individuals, asking for statistical information of all kinds with regard to agriculture in the Territories. At present, owing to the absence of local organisations such as exist in the confederated provinces of the Dominion, the collection of statistics in the Territories is surrounded by innumerable practical difficulties which but tend to increase with the development of the country through settlement. There is no doubt that it would be of great advantage to broaden the scope of this work in many directions, but under present conditions any considerable extension is impracticable. Nothing, however, is being left undone by the department to maintain the standard of statistical work along the lines already laid down, namely, the collection of accurate information with regard to the principal grain crops of the Territories, both during the growing season and after harvest. The following bulletins, compiled from information furnished by the department's corps of crop correspondents, were published during 1903: No. 8, Acreage and condition of growing crops, issued July 15th; No. 9, Condition of crops at harvest time, issued September 1, 1903. Bulletin No. 11, containing the final statistics of the crops as ascertained from returns furnished by some 1,200 threshing machine operators, has been recently issued, the demand for the information it contains being such as to necessitate the publication of a second edition, the first having been completely exhausted within a few days of its appearance. There are two things worth noting in connection with the crop statistics for 1903, namely, that District 11, which has hitherto been a blank owing to absence of settlement, now presents an area under crop of a little under 1,000 acres (this district includes the Britannia Colony, perhaps more familiarly known as the Barr or British Colony) and the fact, which also will no doubt be a surprise to many of our eastern friends, that in the Territories last year 82,420 bushels of winter wheat were successfully harvested. The bulk of this crop was grown in Southern Alberta, and it is therefore now beyond question that that portion of the country has proved itself well adapted for its cultivation.

Appended is the usual table showing the production, acreage harvested, yield per acre and average yield per acre for 6 years for each crop district and for the Territories as a whole. For purposes of comparison a table is also given showing the production and average yield per acre for the past six years of wheat, oats, barley and flaxseed, in the Northwestern States, and the Provinces of Ontario and Manitoba, from which it would appear that the Territories have nothing to be ashamed of so far as crop yields are concerned.

Crop Districts.

District No. 1—Carnduff, Alameda and South Moose Mountain districts. Area 4,716 square miles. Includes districts adjacent to the lines of the south-western branch of the Canadian Pacific Railway and Pipestone extension (in Territories) and the south Moose Mountain country.

District No. 2—Weyburn and Yellow Grass districts. Area 14,638 square miles. Includes the country adjacent to the Soo line between Rouleau and Estevan and the Wood Mountain country.

District No. 3—Moosomin, Whitewood, Wapella and Broadview districts. Area 3,600 square miles. Includes country adjacent to main line of Canadian Pacific Railway between Fleming and Broadview and the district north-east of Wood Mountain.

District No. 4—Grenfell, Wolseley, Indian Head and Qu'Appelle districts. Area 5,086 square miles. Includes country adjacent to main line of Canadian Pacific Railway and to the Qu'Appelle Valley between Grenfell and Balgonie.

District No. 5—Regina and Moose Jaw districts. Area 15,845 square miles. Includes country adjacent to the main line of the Canadian Pacific Railway Company between Balgonie and Rush Lake and along line of Qu'Appelle, Long Lake and Saskatchewan Railway, as far as Dundurn.

District No. 6—Crane Lake, Maple Creek and Medicine Hat districts. Area 37,720 square miles. Includes country adjacent to main line of Canadian Pacific Railway from Rush Lake to Langevin—almost entirely ranching district.

District No. 7—Yorkton and Saltcoats districts. Area 8,735 square miles. Includes country adjacent to the line of the Manitoba and North-Western Railway between Langdenburg and Yorkton and the country east of Touchwood Hills.

District No. 8—Includes all that portion of the Provisional District of Saskatchewan lying east of the 104th degree of west longitude. It is not yet under settlement. Area 47,904 square miles.

District No. 9—Prince Albert district. Area 29,808 square miles. Includes the country adjacent to the line of the Qu'Appelle, Long Lake and Saskatchewan Railway Company from Saskatoon to Prince Albert and a large unsettled tract.

District No. 10—Battleford district. Area 19,440 square miles. Includes the country adjacent to the valley of the Saskatchewan river in the Battleford and Bresaylor districts with a large unsettled tract.

District No. 11—Includes the western 14 ranges of townships in the Provisional District of Saskatchewan. Area 16,848 square miles.

District No. 12—Edmonton, Strathcona and Wetaskiwin districts. Area 48,286 square miles. Includes the country adjacent to the line of the Calgary & Edmonton Railway Company from Wetaskiwin north and the settlements along the Saskatchewan Valley; also a large tract of unsettled territory.

District No. 13—Red Deer, Lacombe and Ponoka districts. Area 13,608 square miles. Includes the country adjacent to the line of the Calgary and Edmonton Railway Company, from Red Deer to Wetaskiwin and westward to the Rocky Mountains.

District No. 14—Innisfail, Olds and Didsbury districts. Area 11,412 square miles. Includes country adjacent to the line of the Calgary & Edmonton Railway from Carstairs to Penhold and westward to the Rocky Mountains.

District No. 15—Central Alberta or Calgary district. Area 14,796 square miles. Includes the country adjacent to the main line of the Canadian Pacific Railway from the western boundary of the Provisional District of Assiniboia to the Rocky Mountains, and to the line of the Calgary & Edmonton Railway from Nanton to Carstairs.

District No. 16—Lethbridge, Macleod and Pincher Creek districts. Area 11,772 square miles. Includes the country adjacent to the line of the Calgary & Edmonton Railway south of Nanton, and to the lines of the Alberta Railway, the Crow's Nest Railway and the St. Mary's River Railway.

VI.—Crop Statistics.

District and Year	Spring Wheat				Oats				Barley				Flax		
	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre
1—1898	804,168	50,455	15·93		292,259	14,919	19·63		45,718	1,892	24·16		.....	.....	.....
1899	1,239,759	78,813	15·73		497,148	16,334	30·50		42,685	2,107	20·25		.....	.....	.....
1900	549,956	79,375	6·92		274,504	14,276	19·22		45,514	1,881	23·64		.....	.....	.....
1901	2,165,042	105,476	20·58	17·41	863,648	22,755	38·04	21·17	51,727	1,721	30·05	25·07	.....	.....	.....
1902	2,630,470	128,253	20·51		1,280,203	30,610	41·83		87,953	3,435	25·60		81,408	8,878	9·16
1903	3,046,517	157,001	19·40		1,542,626	53,498	28 83		116,729	4,631	25·30		126,774	15,173	8·35
2—1898	.....	.....	.....		.....	.....	.....		.....	.....	.....		.....	.....	...
1899	22,000	1,466	15·00		12,000	387	31·00		2,000	80	25·00		.....	.....	.. ..
1900	4,896	1,682	2·91		1,715	108	15·87		4	1	4·00		.....	.....	.....
1901	117,725	5,365	21·94	17·56	61,325	1,454	42·17	38·01	399	21	19·00	24·30	.....	.....	
1902	391,738	15,893	24·64		197,399	5,026	39·27		2,971	106	28·02		17,498	2,050	8·53
1903	443,720	31,396	14·13		458,947	12,238	37·50		7,702	330	23·33		53,744	5,262	10·21
3—1898	1,142,119	71,372	16·00		237,118	8,469	27·99		37,462	1,629	22·99		.....	.....	.....
1899	1,079,784	65,472	16·49		470,828	17,911	26·28		33,755	1,658	20·35		.....	.....	.....
1900	568,254	71,807	7·91		162,572	17,433	9·32		14,472	1,452	9·96		.....	.....	.....
1901	2,052,567	84,002	24·50	17·69	786,347	24,284	32·38	28·13	76,405	2,734	27·94	23·68	.....	.....	.....
1902	2,019,954	96,504	20·93		898,280	24,722	36·33		80,453	2,949	27·27		5,932	450	13·18
1903	2,374 874	132,888	17·87		1,104,072	36,911	29·84		140,629	5,786	24·30		6,975	481	14·50
4—1898	1,460,317	80,348	18·17		379,249	14,558	26·05		23,597	1,204	19·59		.....	.....	.....
1899	1,968,666	104,949	18·75		595,496	19,938	29·86		19,866	856	23·15		.....	.....	.....
1900	908,491	118,752	7·65		359,802	24,474	14·70		15,813	1,056	15·11		.....	.....	.....
1901	3,862,153	135,675	28·47	20·40	1,310,335	21,577	60·72	33·51	47,534	1,353	35·12	23·64	.....	.....	.....
1902	3,321,647	143,577	23·13		1,171,808	33,205	35·28		39,716	1,394	28·41		1,835	167	10·98
1903	3,923,050	173,385	22·62		1,634,416	49,010	33·35		113,582	4,903	23·16		11,583	1,672	6·92

CROP STATISTICS.—*Continued.*

DISTRICT AND YEAR	SPRING WHEAT				OATS				BARLEY				FLAX		
	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre
5 — 1898	900,034	42,859	20·99		278,761	11,614	24·05		14,360	756	18·99		.....	.....	.....
1899	1,361,033	51,057	26·65		489,993	13,921	35·19		13,822	648	21·33		.....	.....	.....
1900	871,877	73,806	11·81	22·10	255,592	16,539	15·45	34·09	7,509	748	10·03	25·65	.....	.....	.....
1901	2,613,861	90,840	28·78		1,147,176	22,039	52·05		31,396	749	41·91		.....	.....	.....
1902	3,143,577	124,728	25·20		1,351,455	44,778	30·18		35,171	1,080	32·56		15,294	1,269	12·05
1903	3,200,500	163,740	19·55		1,753,673	45,885	38·21		47,465	1,856	25·57		31,204	3,182	9·80
6 — 1898	500	28	17·85		9,800	200	44·00		1,550	42	36·90		....	.....	.....
1899	1,290	35	36·85		28,871	568	50·82		2,104	47	44·76		....	.....	.....
1900	1,578	49	32·20		19,886	690	28·82		338	36	9·38		.....	.....	.....
1901	7,148	198	36·10	23·08	73,358	1,622	45·22	44·37	2,646	65	40·70	29·34	....	.....	.....
1902	4,803	222	21·60		121,970	2,441	49·96		1,764	42	42·00		....	.....	.....
1903	13,555	719	18·85		94,425	2,331	40·50		3,423	171	20·01		797	58	13·74
7 — 1898	175,328	13,487	13·27		248,868	9,218	27·00		8,454	496	17·20		.....	.....	.....
1899	164,609	10,595	15·53		246,913	8,298	29·75		7,640	373	20·52		.....	.....	.....
1900	115,975	12,369	9·37		224,943	12,279	18·31		5,980	443	13·49		....	.....	.....
1901	353,100	13,952	25·30	19·04	737,360	15,638	47·26	35·57	21,005	453	46·36	26·41	.....	.....	.....
1902	562,264	23,413	24·01		1,081,758	24,471	44·20		41,685	1,415	29·45		17,279	2,749	6.28
1903	993,659	50,366	19·72		1,547,968	45,020	34·38		76,975	2,939	26·19		22,886	2,617	8·74
8.....					Not yet	under	settle	ment							
9 — 1898	283,925	17,002	17·65		127,205	6,840	18·69		49,803	2,275	22·00		.....	.....	.....
1899	238,849	15,632	15·27		164,527	5,655	29·10		37,539	1,834	21·10		.....	.....	.....
1900	400,616	23,535	17·02		269,344	9,303	27·86		59,250	2,607	22·73		....	.....	...
1901	760,969	33,508	22·71	18·62	496,280	12,977	38·33	30·01	121,594	4,118	29·52	24·71	. .....	.....	.....
1902	1,005,498	46,923	21·42		811,888	26,581	30·54		106,418	3,778	28·16		14,463	1,131	12·77
1903	1,085,492	66,047	16·43		958,181	32,835	29·18		154,506	6,880	22·45		29,227	2,959	9·87
10 — 1898	14,049	702	20·33		16,152	538	30·66		1,915	87	22·00		....	.....	...
1899	7,518	440	17·08		12,472	453	27·53		1,193	53	22·50		....	.....	.....
1900	24,028	1,165	20·62		36,653	1,071	34·22		1,942	79	24·58		....	.....	.....
1901	23,504	937	25·08	20·28	42,037	905	46·45	35·28	1,997	53	37·67	26·57	.....	.....	... ...
1902	30,379	1,347	22·54		61,035	1,366	44·67		2,501	76	32·60		....	.....	.....
1903	32,406	1,913	16·94		55,943	2,025	27·62		4,136	167	24·76		187	10	18·70

11	1903....	7,242	367	19·74	.....	13,756	343	40·10	.....	446	16	27·87	.....	2,320	230	10·08
12....	1898....	627,201	24,122	26·10	21·06	1,115,358	24,246	46·53	34·99	213,103	6,551	31·02	26·39	.....	.....	.....
	1899....	690,642	27,604	25·02		1,406,864	32,802	42·87		120,389	4,560	26·46		.....	.....	.....
	1900 ...	443,423	23,699	18·78		1,476,913	45,930	32·15		123,543	5,101	24·22		.....	.....	.. .
	1901....	619,385	24,899	24·88		2,760,901	65,679	42·03		292,712	8,311	35·21		. .....	.....	.....
	1902....	496,762	29,067	17·09		1,809,337	62.454	28·97		271,438	12,568	21·59		1,636	121	13·52
	1903....	556,081	33,634	16·53		2,700,956	90,899	29·71		625,664	25,293	24·73		4,193	523	8·01
13....	1898....	27,432	1,246	22·25	20·02	134,853	3,290	41·25	35·56	17,268	617	28·75	28·46	.....	.....	. ....
	1899....	30,647	1,608	19·05		163,450	3,804	42·96		23.876	768	31·08		.. ..	.....	.....
	1900....	34,152	1,840	18·56		389,395	10,492	37·11		59,268	2.179	27·20		... .	.....	.....
	1901....	45,963	2,025	22·69		524,580	13,275	39·51		69,833	2.171	35·27		....	.....	....
	1902....	25,668	1,357	18·91		582,131	18,821	30·92		63,879	2,982	21·41		317	50	6·32
	1903....	30,687	1,640	18·71		792,630	23,060	34·37		183.111	5,940	30·82		84	11	7·63
14....	1898....	14,896	572	26·00	21·43	130,204	2,830	46·50	34·37	15,603	447	34·83	23·18	.....	.....	.....
	1899....	8,338	471	17·70		126,822	2,885	44·42		7,202	306	23·53		.....	.....	.....
	1900....	8.377	465	18·01		178,051	4,803	37·06		16,329	689	23·70		.. ..	.....	.....
	1901....	4,879	330	14·78		129,333	4,383	29·50		21,651	1,042	20·77		.....	.....	.....
	1902....	20,921	831	25·17		359,485	11,024	32·60		71,252	4,185	17·02		....	.....	.....
	1903....	9,306	443	21·00		314,639	9,955	31·60		93,438	3,922	23·83		172	11	15·63
15....	1898....	88,221	4,107	21·48	21·60	208,760	5,263	39·66	38·93	17,938	629	35·90	28·04	....	.....	.....
	1899....	38,541	1,808	21·31		254,238	6,186	41·09		15,315	553	27·69		.....	.....	. ...
	1900....	37,838	1.723	21·96		324,981	9,161	43·11		25,076	792	31·66		.. ..	.....	.....
	1901...	29,341	1,298	22·60		467,247	11,167	41·84		35,306	1,039	33·98		.....	.....	....
	1902....	7,969	331	24·02		411,273	10,471	39·27		38,393	1,287	29·80		172	21	8·19
	1903....	12,624	663	19·04		531,116	14,198	37·41		86.034	3,476	24·75		452	32	14·12
16....	1898....	34,292	1,280	26·79	22·09	137,672	3,185	43·22	36·03	14,752	467	31·58	24·74	....	....	.....
	1899...	63,947	3,573	17·89		216,414	5,826	37·15		10,035	433	23·17		.....	.....	.....
	1900....	58,833	2,597	22·65		241,337	6,713	35·95		10,502	468	22·44		.....	.....	.....
	1901....	152,810	6,192	24·68		316,205	8,813	35·87		20,895	872	23·96		.. ..	.....	.....
	1902....	295,200	13,312	22·17		523,273	14,397	36·34		26,823	1,148	23·35		2,351	181	12·88
	1903....	499,316	23,032	21·68		776,357	22,454	34·57		86,460	3,460	24·99		2,255	210	10·73
Territories																
	1898....	5,542,478	307,580	18·01	19·42	3,040,307	105,077	28·93	34·32	449,512	17,092	26·29	25·36	.....	.....	.....
	1899....	6,915,623	363,523	19·02		4,686,036	134,938	34·81		337.421	14,276	23·62		.....	.....	.....
	1900....	4,028,294	412,864	9·75		4,226,152	175,439	28·08		353,216	17,044	20·72		.....	.....	....
	1901....	12,808,447	504,697	25·37		11,113,066	229,439	48·43		795,100	24,702	32·18		. .....	.....	.....
	1902....	13,956,850	625,758	22·30		10,661,295	310,367	34·35		870,417	36,445	23·88		158,185	17,067	9·26
	1903....	16,029,149	837.234	19·00		14,179.705	440,662	32·17		1.741,209	69.667	24·65		292,853	32,431	9·03

VII.—FALL WHEAT, 1903.

DISTRICT	Bushels	Acreage	Yield per acre
9	368	29	12·68
12	3,410	294	11·60
13	467	24	19·50
14	4,388	256	17·14
15	2,621	112	23·40
16	71,532	2,754	25·97
The Territories	82,420	3,440	23·86

VIII.—COMPARATIVE Table showing Production and Average Yield per Acre of Grain Crops in the North-Western States, Ontario, Manitoba and the Territories.

STATE OR PROVINCE	SPRING WHEAT		FALL WHEAT		OATS		BARLEY		FLAXSEED	
	Production	Average yield per acre	Production	Average yield per acre	Production	Average yield per acre	Production	Average yield per acre	Production	Average yield per acre
North Dakota	258,679,057	11·04	.....	.....	110,745,698	27·76	‡4,217,8974	23·09	§35,455,738	7·46
South Dakota	225,449,484	10·80	.....	.....	111,548,713	28·91	‡29,149,753	25·36	§9,274,172	8·42
Iowa	*23,979,988	11·38	*2,600,240	16·18	690,642,762	30·03	‡59,262,092	24·37	§3,015,641	9·52
Kansas	*6,270,217	13·54	*119,743,883	11·83	178,157,228	25·23	‡15,678,146	19 69	§3,418,392	6·44
Minnesota	415,668,725	13·27	.....	.....	371,619,009	25·46	‡88,073,971	25·12	§18,288,835	9·93
Montana	12,941,393	26·32	.....	.....	26,913,969	40·97	‡2,377,384	37·21	§280,698	11·16
Nebraska	*14,647,695	12·92	*77,364,072	18·96	293,804,912	26·83	‡5,832,638	22·09	§348,018	8·66
Ontario	37,052,917	17·86	116,387,938	23·01	561,443,376	38·20	107.434,805	30·55	.....	.....
Manitoba	209,957,457	18·97	.....	.....	143.751,464	37·93	39,688,389	29·55	‡1,864,033	12·80
The Territories	59,280,841	19·42	†82,420	23·86	47,906,561	34·32	4,546,875	25·36	*451,038	9·11

NOTE.—All figures in above table are Imperial Bushels. Unless otherwise specified the figures cover years 1898 to 1903.
* 2 years, 1902-3. † 1903 only. ‡ 5 years, 1899-1903. § 3 years, 1901-3.

NOXIOUS WEEDS.

At the first session of the Assembly in 1903 The Noxious Weeds Ordinance of 1899 as amended in 1900 was repealed and a new Ordinance passed in place of it, which, while retaining all the essential features of the first, contains some important improvements. The Ordinance now requires the owner or occupant of land adjoining a public road to keep the half of it next his place clear of weeds and also provides that an inspector finding noxious weeds in or upon any ditch or right of way of an irrigation company shall notify the manager, superintendent or ditch rider of such company to destroy the weeds within five days of such notice. Some simplification was also effected in the procedure in connection with the destruction of weeds in local improvement districts. Provision was also made for permitting, under regulations approved by Order in Council, of the removal of tailings and screenings from elevators containing weed seeds for the purpose of feeding sheep or such other purpose as will insure the complete destruction of noxious weed seeds therein. The following are the regulations, a copy of which was sent to each elevator in the Territories:

1. Where elevaters are so constructed that each farmer's wheat is cleaned before weighing and the screenings are kept separate such screenings may be taken in sacks by the producer to his farm to be used as food for stock after the destruction of the germinating properties of the weed seeds.

2. The managers of elevators may have screenings containing seeds of noxious weeds, removed in sacks, to be destroyed by fire.

3. The managers of elevators may dispose of screenings containing seeds of noxious weeds, in sacks, to be used for the feeding of sheep, or of other stock if the germinating properties of the weed seeds are first destroyed, if such animals are fed and kept within enclosures which are the property of the feeders and subject to inspection by weed inspectors.

4. Lists of the parties to whom screenings are sold shall be furnished monthly to the Commissioner of Agriculture by the managers of elevators.

The Ordinance further provides that every threshing machine operator shall display on his machine a card containing the section of the Ordinance requiring him to thoroughly clean it before removing from one stand to another. In order to ensure that this would be carried out printed cards were obtained and distributed by the department to all threshers.

Through the courtesy of the Hon. Sidney Fisher, Minister of Agriculture for the Dominion, the department was able to obtain the services of Dr. James Fletcher, the Dominion botanist and entomologist, as a speaker at a series of institute meetings held in Eastern Assiniboia towards the end of June and beginning of July at which the eradication of weeds was the principal topic. Dr. Fletcher is always well received and his great experience and exact knowledge enable him to adapt himself to his audiences in a way which at once enlists their close attention to his remarks.

The last edition of the bulletin "Noxious Weeds and How to Destroy Them" has been practically exhausted and arrangements are being made for a new issue. This little *brochure* has proved of immense value both to the farmers and the department and, owing to the large number of newcomers to our western country, the necessity for its distribution is likely to be maintained.

I am pleased to be able to testify to the keen interest in this branch of the department's work manifested by the Chief Weed Inspector whose report is submitted herewith.

Report of Mr. T. N. Willing, Chief Inspector of Noxious Weeds.

I have the honour to report that work under The Noxious Weeds Ordinance has progressed favourably, with few exceptions, in the various districts over which inspectors have worked. These sections of country in which grain farming is at all extensively carried on at present have been laid off in forty-five weed inspection districts, in forty of which inspectors did duty the past season. Eight of these men were new to the work and may be expected to do better with experience to aid them. It is hoped that during the coming season the list may be filled as the value of inspection is much greater in newly settled districts where preventive measures may be adopted if new comers are made familiar with the appearance and nature of the weeds which have proved troublesome in other parts of the country.

In the statement here given it will be seen that the expenditure for destruction of weeds on abandoned lands is now very low, being little more than half that of the previous year, due to some extent to these places being again occupied. One overseer of a local improvement district near Regina was unable to procure teams to carry out his instructions as to the destruction of weeds and consequently a full crop of seed was allowed to ripen. It may be mentioned, however, that on some of the places where the department had weeds mown several years in succession the weed crop has perceptibly diminished.

—	No. of Inspectors	Days	Cost of inspection	Amount expended on destruction of weeds on abandoned land	Crop area in acres
Assiniboia	24	587	$2,350.80	$282.38	1,003,426
Saskatchewan ..	7	150	600.45	14.00	113,712
Alberta.....	9	178¼	713.25	7.00	262,856
Totals ..	40	915¼	$3,664.50	$303.38	1,379,994

Early in May each inspector was asked to report as to when growth would be far enough advanced in his district to permit of profitable inspection. In districts where stinkweed was known to be a rapid trip to infested farms was authorised during the last days of May and the beginning of June, and inspection continued at such later date as seemed most advantageous: in some cases a start was not made until the latter part of June. More time was granted than in previous years for inspection in various districts and the increased allowance per day helped us to retain the services of competent officials. People are showing a rapidly increasing interest in and appreciation of work under the Ordinance. Great improvement is plainly to be seen in many districts due to the painstaking efforts of inspectors to induce farmers to adopt the improved methods of cultivation, but still many do not seem to believe, what has been amply demonstrated at the Indian Head Experimental Farm, that an early ploughing followed by surface cultivation at frequent intervals throughout the season is the best and most profitable method of summer fallowing for this country. Not only is it the best method for the preparation of a seed bed for wheat and the retention of moisture for its growth but it is the best for weed destruction. There is

a tendency amongst some of the larger farmers to plough twice and omit the cultivation as a saving of time, but this favours the growth of weeds in the crop by seeds being turned up at the second ploughing and left near the surface to grow with the grain sown, and it also has a tendency to dry out the soil. In some districts the inspectors reported that summer fallow was being started too late thus allowing weeds to become too far advanced before turning them down. Dirty seed is being brought in and sown by some of the new settlers without it being in the power of the department to stop it; and the foulest of grain may be sold or used for feeding purposes without hindrance. In the event of one of these new comers renting a place there is not even the incentive of ownership to prevent his polluting the fields by the introduction of noxious weeds. Flaxseed in particular is the medium for the introduction of many weed seeds, and some inspectors reported that the flax fields were the dirtiest they had in their district. Indian reserves are not included in the territory covered by the weed inspectors, and complaints have been received about weeds spreading from them. Copies of our bulletin on weeds were furnished to the Indian Department for distribution to various agents.

Firebreaks prove a means of perpetuating the supply of weeds unless properly looked after, plants often being found to have ripened their seed before being disturbed in any way. Several cases of neglect of this kind were reported during the season in various sections of the country.

Burning of the straw on fields badly invested with stinkweed after harvesting was insisted on in many cases where it would have been a hardship to order the entire destruction of the crop. It may be pointed out here that it would be profitable for every farmer immediately after threshing to clean up and destroy all screenings left if they wish to retain the straw. Delay in cleaning up means that horses and cattle, on the expiration of the herd law term, trample and in other ways carry and distribute weed seeds.

In Southern Alberta there was difficulty experienced in procuring labourers to destroy weeds on the railways, irrigation ditches and in the sugar beet crops. The beet growers found wheat to be more troublesome than anything ordinarily known as a weed because their land had the previous year been under that grain.

Six persons were prosecuted for neglect to carry out the instructions given by weed inspectors and in four of these cases fines were imposed. Another case where the authority of the inspector was openly defied is pending. I believe that more prompt prosecution would in many cases meet with the approval of the majority and be of benefit to the individual against whom action was taken.

In view of the fact that weeds are being rather neglected in many municipalities over which the department has in the past not authorised its inspectors to exercise any supervision, it would seem that the necessity for better observance of the weed Ordinance should be brought to the attention of municipal officials.

Recommendations continue to be made by inspectors and many others that the blue bur, *Echinospermum lappula*, be listed as a noxious weed; and from the way that Russian pigweed, *Axyris amarantoides*, is spreading it would be appear to be advisable to list it also.

I here give a short review of the weeds as reported during the season:

Tumbling Mustard—Was found to be more or less prevalent in the country adjacent to the Estevan and Pasqua branches of the Canadian Pacific Railway and east and west from Medicine Hat. It was also reported from the Lethbridge district, and was found to a small extent about Rosthern and in some Doukhobor lands in Saskatchewan. It is decreasing in the eastern sections but increasing in the west where the settlement is sparse.

Hares-Ear Mustard.—Is decreasing in Eastern Assiniboia, but is abundant about Regina, especially on some unoccupied lands, and there is also considerable of it about Milestone and Moose Jaw. Along the Lethbridge Irrigation Company's canal it was bad but was attended to. In the neighbourhood of Didsbury and Olds it is on many farms. None is now left near Strathcona, where it was thick two years ago, because of prompt action being taken by the parties finding it on their land. It is found to a small extent about Rosthern.

Wild Mustard.—More or less throughout the whole country, and especially where flax has been sown. It does not spread fast except through the use of dirty grain. Many new settlers bring it with them in feed stuff or machinery, and it is found growing at most of the railway sidings where effects have been unloaded.

Ball Mustard.—Much more plentiful in Eastern Assiniboia since the use of seed from Northern Alberta, where it still grows in abundance and is the chief weed. It is also prevalent in Southern Alberta and in parts of Saskatchewan.

False Flax—Is frequently found with the weed just mentioned. Special reference has been made to it this season from the Ohlen district in Eastern Assiniboia, from Southern Alberta and from Saskatchewan, where it was found to be grown in gardens by the Doukhobors for use as a pot herb.

Shepherd's-purse- Is more persistent as a garden weed in the Territories than any other and in Eastern Assiniboia is giving some trouble in the fields.

Stink Weed.—Early inspection is having a good effect in the control of this weed in Eastern Assiniboia. On seven farms in the Moosomin district crops to the extent of fifty-three acres had to be destroyed because of this weed and in some other districts such measures will no doubt soon have to be adopted on places where people persistently crop dirty fields. Some new settlers are finding this weed springing up on their ploughing of land some years abandoned. The more our field of inspection is extended the greater number of places we find infested with this weed to a slight extent and even unrecognised appearing as a flower in the garden. The Calgary district is very badly infested.

Canada Thistle.—A few more patches have been reported throughout the country, but not any badly infested farms. They are found in most of the towns and along the lines of railway. On the Prince Albert line are some very bad patches which are increasing in size although cut every year. At various points in Southern Alberta they are thriving but near Strathcona the cutting during the wet season there prevalent of late has tended to reduce them.

Russian Thistle.—This weed has been giving no trouble but care should be taken that it does not become abundant before we expect it. It has been reported from various points along the Pasqua line and also from south of the Moose Mountains. Maple Creek district has it and

probably we shall hear of it in Northern Alberta, as bales of wire, which had been removed from fences and brought in by immigrants, were seen full of ripe Russian thistle lying about the Ponoka station.

Wild Oats—There is a great increase of this weed throughout the Territories.

Blue Bur—Has spread through the country so rapidly that special mention is made of it by eight of the inspectors from Assiniboia, Saskatchewan and Alberta.

Russian Pigweed—Is all along the railways and on roadsides and waste places where it is proving itself a hardy aggressive weed.

Cow Cockle and *Corn Cockle*—Are reported as spreading.

False Tansy—Was very prominent in some of the eastern districts and is said to be the weed hardest on binders.

Lamb's-quarters—Were very plentiful and in the Strathcona district were thought worse than ever seen.

Buckwheat—Was found to be abundant in Southern Alberta and Eastern Assiniboia.

Couch Grass.—The Eastern form *A. repens* was found in patches in fields near Abernethy, Indian Head and Wolseley

Dodder—Was found amongst flax near Saskatoon, being its first appearance in the Territories so far as known.

Meetings.

Six weeks of my time was spent in attendance with other speakers at institute meetings, this being one of the best ways of disseminating information with regard to weeds. The addresses of Dr. Fletcher, of Ottawa, have in the same way greatly aided in the weed campaign, being always interesting and full of reliable information on the subject treated. Exhibits of weeds were made at the Calgary, Medicine Hat, Moose Jaw and Regina fairs. The weeds shown at the latter place were growing in pots, thus giving an opportunity for attaining a knowledge of the natural appearance of the plants.

Elevators.

A general tour of inspection was not made of the elevators but whenever an opportunity occurred I looked about them and found few cases where it was necessary to make complaints. The change in the Ordinance, permitting sale and use of screenings, under certain restrictions, for the feeding of sheep, was not taken advantage of to any extent.

T. N. WILLING,
Chief Inspector of Noxious Weeds.

HARVEST HELP.

The harvest help problem is one of the greatest moment to the grain growing farmers of the Territories and is at the same time one that is becoming, in consequence of the rapid extension of the cultivated area and the steady diminution of the supply of labour from Ontario, more and more difficult to solve satisfactorily. No doubt this is a problem

that in course of time will solve itself in obedience to economic laws, but at present, and while the aim of so many of our farmers is confined to raising large crops of wheat, the matter of harvest labour must continue to demand the attention of the department.

In addition to the diminishing supply of harvest help from the East it is becoming evident that the quality is to some extent deteriorating. The glowing possibilities of the West having already attracted here permanently a large proportion of the farmers' sons and those experienced in farm work from the eastern provinces, many of those who take advantage of the excursions are found to be unemployed men and boys from eastern cities who cannot satisfactorily perform the duties required of them on a farm without a certain period of training during which they are as a rule worth little more than their board.

It is estimated that the 1902 harvest excursions brought some 14,000 hands to Manitoba and the Territories, while in 1903 the number fell short of that by at least 200. Fortunately for the Territories the harvest in Manitoba was early and the crops there much lighter than in the previous year. This released a number of hands who were thus enabled, after completing their service there, to proceed west and assist in gathering the Territorial crops. Unfortunately the wet cold weather which delayed the ripening of crops and the consequent tardiness of farmers in hiring caused a good deal of justifiable grumbling on the part of excursionists, who were in many cases kept hanging around the towns for days at their own charges while awaiting engagement. While such contingencies are no doubt to a large extent unavoidable, it is suggested that whenever possible men be promptly hired on arrival as the results will be more likely to prove mutually satisfactory to employer and employed.

In July everything pointed to the production of the largest and most prolific crop in the history of the Territories and the department, realising to the full its importance, took early steps to cope with the harvest help proposition. It was decided to follow the general plan adopted the previous year, namely, of asking the farmers to register their requirements in the way of help in books provided for the purpose placed in the hands of every railway station agent in the great grain producing districts, and, in order to ensure as much publicity as possible, in addition to the usual notices furnished to the Territorial press, posters were issued and mailed to all postoffices, secretary of branches of The Territorial Grain Growers' Association, crop correspondents, and others. As a shortage in the supply of hands from Ontario was anticipated communication was opened up with the Canadian Government agents at Grand Forks, North Dakota, and St. Paul, Minnesota, as follows:

This department is now making arrangements in connection with the necessary supply of help for harvesting the crop of the North-West Territories. Hitherto this supply has been drawn from Eastern Canada and proved sufficient for our requirements, but it has now been found necessary to look further afield as this year conditions have changed. It has occurred to the department that the harvest in your part of the world being generally completed before the Territorial harvest begins, it might be possible to secure a certain number of men from your state who would be willing to assist with the harvest here if sufficient inducements were offered. No doubt there are many who would gladly avail themselves of such opportunity for seeing for themselves the resources of this country and I am, therefore, writing to ask what you think of such proposition, whether you consider it advisable and if many would take advantage of it. I would also be glad to know whether, in your opinion, the management of the Soo Line could be induced to grant special excursion rates in connection with this.

In reply to these communications word was received that a special rate had been arranged with the Soo Line of $10.00 from St. Paul to Regina effective between July 27th and August 31st; and one of $20.40 from Kansas City and Omaha to Regina. It is thought that a considerable number came into the Territories under the above arrangements.

Arrangements were also made with The Canadian Pacific Railway Company for low rates between Saskatoon and Regina for such of the men from the Britannia Colony as cared to avail themselves of the opportunity to gain a little experience in handling grain crops. A large number of Chinamen were brought in by the Sugar Manufactory Company at Raymond to assist in the cultivation and handling of their beet crop.

The usual harvesters' excursions were conducted by The Canadian Pacific Railway Company, trains leaving the east on the 17th August and the following days of the week. Representatives from this department, Messrs. Geo. Harcourt and T. N. Willing, were at the Winnipeg station to meet the incoming harvesters and to aid in forwarding them to points where their services were required. Only 922 men were asked for through the department's registration system. This indicates that it is valueless as a means of ascertaining Territorial requirements in this connection, and it will therefore be discontinued. The estimate made by the railway company was 3,100 hands but to August 28th 4,063 harvest tickets had been extended to points between Fleming and Moose Jaw on the main and branch lines. Of this number 1,164 were for Moose Jaw where, before any damage by hail, only 116 hands had been asked for, which would indicate that the majority of these must have gone on to points further west as there was no surplus or congestion at that point.

In many districts immigrants who had arrived during the spring and summer months and who had not taken up residence on their homesteads, were available for harvesting. A great proportion of these were inexperienced. Experienced men readily secured employment at good wages. On the whole the arrangements made by The Canadian Pacific Railway Company and the department worked smoothly and no complaints were received of scarcity of help.

II.—LIVE STOCK.

HORSES.

This subject is very fully covered by the Secretary and Managing Director of The Territorial Horse Breeders' Association whose report will be found in Appendix B.

ENROLMENT OF STALLIONS.

At the first session of the Legislative Assembly held in 1903 Chapter 20 of 1899, entitled The Horse Breeders' Lien Ordinance, was repealed by the enactment of an Ordinance known as The Horse Breeders' Ordinance (Chapter 23, 1903, first session.) Under the old Ordinance the owner of a stallion registered in any recognised stud book might register the animal in the department upon payment of a fee of $5.00. The Ordinance further provided that a copy of such certificate should appear on all stallion bills and other advertising matter. Provisions were also made for the registration and enforcement of lien for service in the case of horses registered under this Ordinance; a feature which is common to both of the Ordinances above referred to though there are some variations in detail which need not here be entered into. It was felt, however, in view of the rapidly growing importance of the horse breeding industry of the Territories, that some much more drastic measure was required which would protect not only the stallion owner but the public who availed themselves of the use of his animal. The new Ordinance makes it compulsory for every stallion owner travelling a stallion for profit or gain to have the animal enrolled in the department, the fee for this being $2.00. The certificate issued by the department shows either that an animal is purebred and registered in a stud book recognised by the department, or that it is a grade or a crossbred animal and therefore not eligible for registration. A copy of the certificate must appear on all advertising matter. Failure to enroll an animal or otherwise comply with the provisions of the Ordinance, renders the offender liable to a penalty of $25.00. There can be very little doubt that the enactment of this Ordinance is decidedly in the interest of horse breeders in the Territories. Henceforth every stallion will have to travel on its merits, at least as to breeding. Many horsemen are inclined to go even further in the direction of stallion legislation in view of the fact that animals of unquestioned merit as to breeding often fail lamentably in the stud owing to physical unsoundness. The compulsory veterinary inspection of stallions under government auspices is a subject that has been much discussed of late in the leading agricultural periodicals of this and other countries. Although in many respects desirable, it is safe to say that, at the present time and in the present condition of our horse industry, legislation in this direction for the Territories would be considered premature. The new Ordinance for the protection of horse breeders in the Territories only came into effect on the 1st day of January last, so that any comments on its practical

working may be deferred to a later date. Subjoined is a list of stud books officially recognised by the Dominion and Territorial Departments of Agriculture.

CANADA.

Dominion Clydesdale Stud Book.
Dominion Shire Stud Book.
Dominion Hackney Stud Book.

UNITED STATES.

American Thoroughbred Stud Book.
National Register of Morgan Horses.
American Cleveland Bay Stud Book.
American Suffolk Punch Association.
American Percheron Breeders' and Importers' Association.
American French Coach Horse Society.
National Register of French Draft Horses.
National Register of Norman Horses.
American Belgian Draft Horse Association.
German Coach Horse Association.
Oldenburg Coach Horse Association.
American Trotting Register Association.
American Saddle Horse Breeders' Association.

GREAT BRITAIN.

All of the British Records for Horses.

STALLION SYNDICATES.

Theoretically what is known as the syndicate system of purchasing and owning stallions is, if honestly carried out, a legitimate, convenient and effective way of supplying a long felt want on the part of the western farmer who wants the use of good stud horses and wants it badly. Examined more critically, however, there is grave reason to doubt whether, as at present carried out in the Territories, it is altogether an unmixed blessing. While the general plan of operations is no doubt familiar to most of the readers of this report, as it has been fully discussed from time to time in the agricultural press, it may not be out of place to recite the facts here. The agent of the dealer visits a district with the horse he wishes to dispose of, calls on the farmers, outlines the syndicate plan and states the price of the animal. On receiving assent to his proposition, a printed document is presented for signature to the effect that the horse is satisfactory and that if the requisite number of shareholders can be secured it will be disposed of to the signatories, otherwise the contract will be null and void and he (the agent) would try his luck elsewhere. If successful in syndicating a horse a meeting of the shareholders is called, officers are appointed and rules drawn up and service fees, etc., fixed. Joint and several notes are then signed by the members of the syndicate, maturing in one, two or three years with interest at 7 per cent. or 8 per cent., by which each becomes individually liable for the full purchase price of the animal. A guarantee is usually given by the dealer that if the horse does not get in foal, say 50 per cent. of the mares served, he will be replaced and if he should get sick or die before half the travelling season is over another animal will be placed on the road to complete his season's work. Such an arrangement appears very fair on paper and does occasionally work out satisfactorily for the parties to it, but it is made abundantly evident from enquiries the department has made from a number of syndicates in the Territories that it does not invariably do so. A syndicate commonly consists of

about fifteen members. Coming to the matter of price of stallions under this system it is found that of the fourteen syndicates which replied to the department's enquiries, three paid $4,000.00, one $3,750.00, one $3,000.00, one $2,600.000, one $2,500.00, one $2,400.00, three $2,200.00, one $2,000.00, one $1,700.00 and one $1,500.00. With the exception of some slight variations as to age these widely divergent prices were paid for practically the same kind of animal, the higher prices being invariably paid for animals imported from the United States. It is generally admitted that a first class Percheron or Clydesdale can be bought in Chicago for from $1,500.00 to $1,800.00, while $1,200.00 is the price of a first class stallion in Scotland. There would therefore appear to be no reason why, unless they wish to do so, our farmers should pay $4,000.00 for an animal that is probably not worth more than $2,000.00. Sometime ago "Farm, Stock and Home," a monthly agricultural paper published in Minneapolis, offered prizes for the best reasons why from $3,000.00 to $5,000.00 is paid for draft stallions. The following was one of the answers received and may be fairly considered to represent the dealer's view of the matter:

One reason: Any good, young stallion, four years old, full blood and registered, of any of the draft breeds, is worth $800.00 in the company's barn, sound and of good colour.

One reason why the price advances: This same horse is taken out and sold to a company of farmers on long time. He makes two full seasons in the stud before the first payment becomes due. That makes this same horse worth $1,600.00 when he is being sold.

Another reason: When this stallion is sold the seller does not know who will handle the horse, and right here is where the seller runs a big risk. As everything depends on the man who is going to stand the horse, many a good one is spoilt right at this time. It is worth $1,000.00 to run this risk. The horse is now worth $2,600.00. This same horse is guaranteed a breeder and to get 65 per cent. of the mares in foal.

One more strong reason: When this stallion is sold the seller runs all the risk of the horse dying from any cause whatever till he has made one full season in the stud. That makes the horse worth $3,600.00. The seller must now figure on making a small profit besides all other risks, say $400.00, that makes this horse worth $4,000.00. If the horse is of extra breeding he will be worth still more money.

The journal quoted goes on to say:—

At first it was thought that this man was writing sarcastically, his reasons were so peculiar, but it was subsequently determined that he was in earnest, and his letter was considered as seriously as he wrote it. But, as a matter of fact, his contribution does not comply with the conditions named in the offer, for the necessity of paying such a price was to be named, and that point was not touched. The first value put upon the horse, $800.00, and the profit that he says the seller ought to make, $400.00, or $1,200.00 is what he ought to be bought for, the buyers to take all the other chances named—subject, of course, to any guarantee given by the seller—as the buyers of all other kinds of property do. For cash or good paper the owner of this suppositious horse would have sold him for $1,200.00 at the most, probably for less, and businesslike buyers would surely assume the risks and factors named rather than pay $2,800.00 for them.

F., S. & H. desires to be particularly understood, in this connection, that it has no objection to companies of farmers paying exorbitant prices for stallions if they want to. It has no objection to a farmer planting his corn two feet deep if he wants to; but it would feel it a duty to point out to such a farmer a more reasonable way to plant corn: and it feels moved by a similar sense of duty to point out a more reasonable way to buy stallions.

Unfortunately the department's enquiries bring out the fact that in some cases at least inferior animals are being placed with syndicates at the exorbitant prices. One animal for instance is admitted to have "rather poor legs." In another case the percentage of foals is too small.

In another the horse, a $4,000.00 one, had distemper when purchased and was otherwise so unsatisfactory that the syndicate put in a claim to the vendors for $300.00 for loss sustained. After considerable correspondence the amount of $150.00 was allowed, but the actual loss was estimated as approaching $600.00. In still another instance the stallion proved useless and was exchanged for another, and the opinion of the syndicate is that the change was not for the better. In another, a syndicate purchased a stallion for $4,000.00, but finding that signatures to the notes had been obtained by what was alleged to be fraudulent methods, they had the agent arrested. The case was thrown out but it is a significant fact that the price of the animal was promptly reduced by the dealers to $2,500.00. Another animal proved unsatisfactory and had to be returned to the dealer. On the whole the enquiry reveals a lamentable lack of judgment and ordinary businesslike prudence on the part of the majority of syndicates combined with a distinct eagerness on the part of certain dealers or their agents to take advantage of them. The cure for such evils as exist in this connection does not lie in legislation but in the adoption of more businesslike methods on the part of syndicates. To begin with, it may be accepted as an established fact that the best class of horses is not peddled round the country, and that much more satisfactory results in the purchase of stallions would be obtained by a syndicate deputing one or more of its members, who should be competent judges of horse flesh, to visit the headquarters of breeders and select an animal after close scrutiny and careful veterinary inspection, not forgetting a strict examination of his pedigree papers. It would also seem a wise thing on the part of syndicates, which have as at present formed no corporate rights, to organise wherever possible under The Companies Ordinance which would cost them only $15.00, and would effectually put an end to the trouble over signatures to documents which at present worries the average syndicate "shareholder." When all is said and done, however, and a high class animal actually secured, the question of his failure or success as a stud animal must very largely depend on the way in which he is handled. Stud grooms are more frequently born than made, and if much disappointment is to be avoided it is essential that members of syndicates should see to it that whoever handles their animal is thoroughly up to his work.

CONTAGIOUS DISEASES OF HORSES.

The duty of dealing with animals affected with contagious and infectious disease is carried out by the North-West Mounted Police under the instructions of the Chief Veterinary Inspector of the Dominion Department of Agriculture. The following extract from the report of the Commissioner of the force will be of interest:

Glanders, I regret to say, is still very prevalent in some parts of the Territories, and there is an increase in several districts as compared with last year, but it must be borne in mind that there has been a large increase in the number of horses during the past year. It is a noteworthy fact that glanders is almost unknown amongst the range horses, and is most prevalent in the thickly settled districts. The outbreak in the Red Deer district reported last year has, I am glad to report, been almost entirely stamped out. It is very satisfactory to note that not a single case of glanders has been reported in the Maple Creek district

for the past year. The greater number of cases of glanders have occurred in Eastern Assiniboia, 1,130 horses having been examined or tested. Of these, 319 were tested and quarantined, 91 were tested and destroyed, 16 were destroyed without test, 269 tested and no reaction, 435 were examined and found free from disease, and 96 are still in quarantine. Edmonton district ranks next in the prevalence of this disease, there being 81 horses tested, and 45 destroyed, 15 of these being in the Red Deer country. Five horses, which reacted on the first test, failed to react on further tests and were released. Calgary district comes next, with 27 horses destroyed, and Prince Albert district follows with 25 and 6 still in quarantine. Maple Creek, no cases. Medicine Hat, 10 horses destroyed and 1 still in quarantine. Lethbridge, 3 destroyed; Macleod, 1 destroyed, and Wood Mountain, no cases. At ports of entry no glanders was discovered, except at North Portal, which had 4 cases. I beg to append a statement, showing the number of horses destroyed for glanders in each district, as compared with last year:

District	1902	1903
East Assiniboia	39	107
Maple Creek, W.A	1	nil
Medicine Hat, W.A	21	10
Lethbridge, Alta	nil	3
Macleod, Alta	3	1
Calgary, Alta	11	27
Edmonton, Alta.	17	46
Prince Albert, Sask	20	25
	112	219

Mange has increased amongst horses principally or nearly altogether in the west. Early in the year, this disease was found to exist in several bands of horses running west of Stair, on the north side of the South Saskatchewan river. Dr. Hargrave, under my instructions, arranged to have these horses, some 4,000 in number, rounded up, all affected animals to be taken up and treated and none to be sold or shipped until the range was clear of this disease. The greater part of these horses were rounded up on June 25, and examined hy Dr. Hargrave, who picked out 74 head as affected, two so badly that they were shot. Later on he isolated 50 more head, which with the 72 already quarantined, were treated and released by Dr. Hargrave in the latter part of July. It is estimated that about 100 mangy horses died on this range during the bad storm in May last. Considerable mange existed amongst horses in the Little Bow country. Insp. Burnett, V.S., visited the affected herds, quarantined them and gave directions as to treatment, with the result that the disease is practically stamped out in that district.

Staff-Sergt. Hobbs, V.S., reports mange in his district as on the increase, and has during the past year been visiting quarantined herds. His last report states that horses belonging to five large owners are still being treated and are in quarantine. Mange was found in a herd of horses at Rosthern in the Prince Albert district, 162 in number, which had come from the Lethbridge District. They were promptly quarantined. Forty-three have been released and one hundred and nineteen are still in quarantine. Edmonton district reports only seven cases of mange, which have been treated and cured. Only isolated cases have appeared in other districts. Anthrax—Two cases were reported from the Edmonton district. The hodies were burned. Typhoid and other fevers appear to have been very much less prevalent than last year, mention of very few cases being reported even from the Edmonton and Prince Albert districts. There were no other diseases amongst horses that require special mention, the only one that caused any trouble or loss being strangles, which is always more or less prevalent amongst range stock.

CATTLE.

No statistics are available as to the actual number of neat cattle now held in the Territories, later than the figures given in the last census returns which placed it at 591,739 head. It is safe to say that at the end of 1903 that number was nearly doubled and a conservative estimate would be about 750,000 head. The necessity for accurate statistics with

regard to our cattle industry is beginning to be acutely felt, and it is a matter for regret that for reasons already indicated in this report the want cannot at present be supplied by this department. A feature of last year's business was the large increase in the number of cattle brought in from the United States, 51,659 head having been entered at the various Territorial customs ports against 17,315 head in 1902. The statistics of exports on the other hand, which will be found below, are distinctly disappointing and go to show that the export cattle business of the Territories is practically at a standstill and give point to the remarks made in previous reports as to the necessity for some drastic change in our methods of handling and shipping, if what has promised to be an important and extensive industry is to be maintained. There is no doubt that in many parts of the country ranchers are suffering under serious inconvenience by the settlement of their grazing leases and, while this is perhaps inevitable, it may account to some extent at least for the languishing condition of the industry. Among other contributory causes may be mentioned the large importation of dairy-bred dogies from the East, nor is it reasonable to expect that the importation now going on of such large numbers of Mexican cattle of inferior type will improve the situation. The transformation of the present wasteful method of long distance live shipping into a dead meat business has been indicated in former reports as affording a satisfactory solution of our present difficulties, but a great deal yet remains to be done before any such system can be put into practical operation. The most cheerful feature of the present situation is the steady demand for purebred bulls raised under conditions which render them suitable for range purposes, as evidenced by the increasing popularity of the annual sales conducted under the auspices of the Territorial Cattle Breeders' Association at Calgary.

Various phases of the cattle industry are dealt with comprehensively by the Secretary of the Territorial Cattle Breeders' Association in his report (see Appendix A).

Health of Cattle.

Cattle have been on the whole free from disease, with the exception of mange, which has prevailed to a considerable extent in the southern range country of the Territories. The Commissioner of the North-West Mounted Police force in his Report to the Honourable the Minister of Agriculture says:

Owners of cattle, as a class, are fully alive to the seriousness of the disease, and now without delay take up a diseased animal and treat it. Some of the larger owners have dipping vats, but the general rule is by hand application. Amongst the shipments of export cattle 110 head were rejected for mange in the Calgary district, nine in the Macleod and Lethbridge districts, and five in the Medicine Hat district.

Veterinary inspectors have made, during the past season, systematic inspection of a large number of cattle in their respective districts, and though mange existed, it did so to a much less extent than formerly.

Insp. Burnett, V.S., at the request of the Chief Veterinary Inspector, went to Helena, Montana, to confer with the chief State veterinarians of Montana and North Dakota on the subject of the prevention and cure of this disease, and on his return proceeded to Ottawa to report to and confer with the Chief Veterinary Inspector.

Actinomycosis.—Insp. Burnett reports the almost total disappearance of actinomycosis on the western ranges, and I have heard but little of it from any point. Two head of cattle were refused entry at North Portal being affected with disease, and three rejected for export in the Medicine Hat district.

Tuberculosis.—Fifty-one head were examined and tested at the Experimental Farm, Indian Head, and four found affected.

One Shorthorn bull (purebred) was found to be affected.

Black Quarter.—Some cases were reported from various parts of the Territories, but it was much less prevalent than in former years.

Ophthalmia appeared in the Edmonton district, and at some points in the Qu'Appelle valley. It is supposed to be caused by the pollen of some plant entering the eye while the animal is feeding, and appears to be merely temporary, no case of permanent blindness having come to my notice.

IMPROVEMENT OF CATTLE.

The arrangements carried out by the department since 1900 for the transportation at a nominal cost to the importer of a limited number of purebred animals from points in Ontario and Manitoba were continued last year, the Canadian Pacific Railway Company having again granted free haulage, and the live stock associations of the provinces mentioned having undertaken the task of collecting and shipping. It will be noticed that there was a considerable falling off in the number of animals brought in last year, and it is probable that the scheme will not be continued after the present year, as the Calgary sale now provides facilities for securing pure bred animals raised under western conditions, which did not exist at the time it was inaugurated.

The following statement shows the importations under these arrangements from Ontario and Manitoba during the past four years as well as the cost of each year's operations:

PROVINCE	1900		1901		1902		1903	
	No. of animals	Total cost to dept.	No. of animals	Total cost to dept.	No. of animals	Total cost to dept.	No. of animals	Total cost to dept.
Manitoba.....	18	....	25	....	29	....	21	....
Ontario	47	....	13	....	42	...	30	....
	65	$186.46	38	$39.77	71	$58.41	51	$165.96

PURE BRED Cattle Imported from Manitoba, 1903.

No.	Breed	Shipping Point	Destination
1	Galloway	Morris or Rosenfeld	Calgary.
1	"	" " "	Maple Creek.
3	"	" " "	Medicine Hat.
1	Hereford	Oak Lake	Calgary.
1	Galloway	Morris or Rosenfeld	Maple Creek.
1	Shorthorn	Carberry	Qu'Appelle.
1	"	Killarney	Cochrane.
1	Hereford	Cartwright	Cochrane.
1	Shorthorn.	Carman.	Maple Creek.
2	Hereford	Deleau	Maple Creek.
1	"	"	Cheadle.
1	"	Cartwright	Saltcoats.
1	Shorthorn	Poplar Point	Pincher.
1	"	Manitou	Cowley.
1	"	Winnipeg	Wetaskiwin.
1	Galloway	Morris or Rosenfeld	Carstairs.
1	"	" " "	Lacombe.
1	Polled Angus	Moosomin	Millet.

PURE BRED Cattle Imported from Ontario, 1903.

No.	Breed	Shipping Point	Destination
1	Galloway	Guelph	Medicine Hat.
2	"	"	Medicine Hat.
3	Hereford	Durham	Calgary.
1	Ayrshire	Carleton Place	Qu'Appelle.
1	Shorthorn	Claremont	Calgary.
1	"	Ottawa	Maple Creek.
1	"	Markdale	Maple Creek.
2	"	Streetsville	Indian Head.
1	"	Stouffville	Calgary.
1	"	Streetsville	Colley.
1	Jersey	Smith's Falls	Medicine Hat.
1	Shorthorn	Hyde Park	Lacombe.
1	"	Claremont	Lacombe.
1	"	Flesherton or Markdale	Strathcona.
1	"	Denfield	Edmonton.
1	"	"	Wetaskiwin.
1	"	Coboconk	Strathcona.
1	"	Barrie	Lacombe.
1	"	Denfield	Edmonton.
2	Hereford	Brockville	Edmonton.
1	Shorthorn	Teeswater	Carnduff.
1	"	Guelph	Lumsden.
1	"	"	Lumsden.
1	"	"	Lumsden.
1	"	Streetsville	Saskatoon.

SUMMARY OF DISTRICT REPORTS.

Eastern Assiniboia.—In this district few cattle are now held under range conditions owing to the encroachment of settlement, but the quality of both beef and dairy cattle is improving through the influence of purebred sires. During the winter and summer no more than the usual losses were sustained, with the exception of a few cases of suspected poisoning from the eating of injurious plants. Conditions during the haying season were not favourable for securing first class hay, as the sloughs were too full of water. Cattle fattened well and were in good condition at the beginning of winter. The prices for beeves ranged from $2\frac{1}{2}$ to $3\frac{1}{4}$ cents per lb., or about six dollars per head less than during the previous season.

Dundurn.—During the early part of the winter of 1902-3 some cattle suffered through drifting before snowstorms over burnt prairie; otherwise the loss was normal. The increase averaged about 60 per cent. of the breeding stock. Heavy rainfalls prevented the procuring of as abundant supply of good hay as desirable. The late fall was, however, favourable for feeding of stock and left them in good condition to enter the winter, the snow being late in coming. Prices received for beef stock were about twelve per cent. less than during the previous season. The general health of the cattle was good.

Prince Albert.—Cattle wintered well with little loss. The increase was about as usual. Little good hay was secured but cattle are in fine shape to begin the winter. The ruling prices have been low.

Wood Mountain.—The winter loss was slightly heavier than during the previous year being about 8 per cent. The calf crop was as usual about 60 per cent. of the mature females on the range. The quality of the hay put up was poor but plentiful. Cattle were in good condition

at the beginning of winter although the grass did not cure well on the prairie. Blackleg was less prevalent but mange is reported to have broken out.

Maple Creek to Swift Current.—During the winter few losses occurred but the spring was rather disastrous and the loss ranged from 10 per cent. to 30 per cent. of the stock, being largely due to a very severe snowstorm on the 23rd May. Owing to a large number of yearling dogies having been turned out to winter the percentage of loss was greater than would otherwise have been the case. The calf crop was also seriously affected by the bad weather and is estimated at 30 per cent. to 50 per cent. of the breeding stock. The supply of hay is poor both in quality and quantity. Stock were not in as good condition to enter the winter as might have been wished for, particularly as the grass had been pretty badly frozen on the ranges. The lowest prices obtained in many years were received for cattle, the price being 3 cents on foot at Winnipeg, or $35.00 to $45.00 for beef steers and $25.00 to $35.00 for dry cows at shipping points. The losses from wolves during the summer have been somewhat heavier than usual amounting in some localities to 5 per cent. of calves and 10 per cent. of colts. General health of stock has been good although mange is still more or less prevalent.

Medicine Hat.—The winter losses were slight but the spring storm did much damage and in some cases reached 25 per cent. of the herds, being especially heavy amongst the breeding stock. The calf crop, however, was fair, being from 45 per cent. on range to 80 per cent. amongst the close herded cows. The hay season was wet and the quality of the hay secured was not equal to the average, and as the early summer had been dry the quantity was also less than usual. The grass on the range did not cure well and many of the cattle were not in very favourable condition to enter the winter. Prices were lower than during the previous season standing at 3 to 3¼ cents per lb., at shipping point, for steers or $40.00 a head for top quality. Cows went at 2½ to 2¾ cents. During the summer the wolves killed a small number of cattle but do not seem to be increasing in number; the coyotes, however, are increasing. Cattle were in good health throughout the season with the exception of a few cases of blackleg and a little mange.

Macleod.—The winter was considered very favourable to stock, the losses not being heavier than 5 per cent. The increase was about 60 per cent. of the mature females but the storm in May killed many calves. The rains of August spoiled a great deal of hay and the quantity secured was much less than usual. Grass cured badly on the range and cattle were only in fair condition to begin the winter. Beeves sold for $40.00 to $45.00 for tops or $30.00 all round which would be about 5 per cent. lower than the price of the previous season. The losses during summer were light, a few from wolves on the southern part of the range and rather more than usual from blackleg. The health was as a general thing good although a few cases of mange still appear and lumpy jaw seems to have been a little more prevalent than usual Range conditions are rapidly being superseded by the farmer and the fence.

FATTENING STEERS ON THE FARM.

It is probable that the next few years will see a great development of this side of the cattle business in the mixed farming districts of the Territories. The following results attained by a well known farmer near Moosomin were published in the Western agricultural periodicals and are worth repeating here. During the winter of 1902-3 Mr. R. J. Phin, of Moosomin, Assiniboia, fed 43 head of fattening cattle, and on June 9th delivered 21 head to the Western Packing Co., Winnipeg, being the last shipment of the bunch. Amongst these were 18 four-year-olds, averaging 1,470 lbs., and 3 three-year-olds, going 1,300 lbs. each. These cattle were all fed loose in large stables—from 15 to 20 in each—and had the run of the yard day and night during the winter, and later were on the grass with grain. In answer to an enquiry made by the "Nor'-West Farmer," Mr. Phin wrote:

In winter feeding I aim to get increase, and also to produce a profitable carcase—one that will cut up a large proportion of lean meat. I buy all my feeding cattle in the early fall if possible and begin feeding grain early, beginning at half a gallon of chop and gradually increasing until they are getting about a gallon and a half twice a day by the new year, which is about the largest quantity I feed. They get most of their rough feed in the fields and at the straw stacks until the new year, but as soon as the weather becomes too cold or rough, they are fed oat hay at noon, getting cut straw and a few cut oat sheaves with the chop morning and night. They are shut in only while being fed, having the run of the yard night and day, except on stormy nights, when they are closed in the stable; but for the greater part they preferred to lie out most of the winter. I try to get steers of good quality and in fair condition, averaging from 1,150 to 1,200 lbs. Last fall I put in a few steers averaging 1,400 lbs., and they were about as profitable as any. I find the three-year-olds do the best. The 43 head I put in last fall averaged nearly 1,200 lbs. and cost an average of $40.50. They were sold for an average of $65 each.

The Western Packing Co. expressed their opinion of the animals as follows:

These cattle, according to our idea of beef, are equal in quality to cattle fed indoors, being quite as well finished in every respect. In outward appearance they look more shaggy and rough in hair, but this, of course, is due to their being more exposed to the weather than stall-fed stock.

We believe that indoor feeding might give better results in a cold climate such as ours here in Manitoba—that more gain in weight would result from the same amount of feed. Of course there would be more work necessary in stall-feeding, and this may possibly be counteracted by the saving of labour in the open shed feeding.

The proportion of beef from these cattle, taking weights at Moosomin as they were driven from the yard to the scale, is 57½ per cent. The proportion of beef, taking weights off cars, Winnipeg, after a twelve hours' run, was 61 per cent. This showing is equal to any stall-fed stock we have handled this season and better than the average. This smallness of shrinkage is largely due to the selection of good feeding stock, cattle of uniform weights. It would be hard to pick an evener lot than these in question.

Plate II (see end of volume) shows carcases of some of these animals as they appeared in the cooling room.

GRAIN FINISHING OF RANGE CATTLE.

As intimated in the Annual Report for 1902, the department, in order to arrive at an estimate of the possibilities in the way of finishing range cattle, entered into negotiations with the Federal Government through the Live Stock Commissioner with a view to having a carload

of selected steers shipped east, placed in proper hands for feeding, and sold for export in the spring. Twenty-four selected steers 2 years old in the spring of 1902 were purchased in December of that year from the Canadian Land and Ranche Company of Crane Lake. The shipment consisted of 8 head each of high grade Shorthorn, Hereford and Galloway steers, the price paid being $40.00 a head, which was a very little over the price being paid for export cattle at the time. Previous to shipment the animals were for a short time corralled at nights and fed on hay in order to get them gentle. An experienced cattle man was placed in charge of the shipment, which left Crane Lake on November 28th and arrived at Guelph, Ontario, on December 29th: a special rate of 47½ cents was made by The Canadian Pacific Railway Company for the car. The cattle were exhibited on arrival at the Ontario Provincial Fair at Guelph where they attracted considerable attention. Mr. Chas. W. Peterson, Deputy Commissioner of Agriculture, was present at the fair and saw proper arrangements made for the accommodation of the animals upon arrival. After the fair arrangements were made for the finishing experiment, half of the cattle being placed in the experimental stables at the Ontario Agricultural College and the balance with Major Hood, a well known feeder in the vicinity.

The expenses incurred in connection with the shipment were as follows:

Cost of 24 steers	$960.00
Transportation	137.79
Feed, &c., en route	28.54
Expenses and wages of attendant	66.00
Total	$1,192.33

The department has not up to the present received an official report on the results of the test.

DAIRY INDUSTRY.

Through the courtesy of Mr. J. A. Ruddick, Chief of the Dairy Division of the Department of Agriculture, Ottawa, I am able to present a statement showing the business done at the experimental dairy stations in the Territories during the past year. For the purposes of comparison the figures are also given of the results in previous years. There was some falling off in the output of most of the creameries in Assiniboia, but it will be noticed that the creameries which fell behind were those situated at exclusively wheat raising points while those in mixed farming districts show a slight gain. The high price paid for dairy butter is one of the reasons advanced for the falling off in the patronage of some creameries, but the main reason is that the farmers in those districts are making bigger money out of wheat. It will be noticed that all the Alberta creameries made a splendid showing last year.

IX.—SUMMARY of the Business done at the various Stations throughout the Territories, under the Management of the Dominion Government, for the Seasons 1898 to 1903 inclusive.

NAME OF STATION		No. of patrons	Inches of cream supplied	Lbs. of butter manufactured	Average price realised at creamery	M'f'g charge per pound	No. of days in operation	Gross value of product
					Cts.	Cts.		
Blackfalds	1903	63	29,541·8	35,981	19·29	4	119	$6,941 55
Calgary	1898	59	15,627	19,389	20·25	4	168	3,926 70
	1899	43	24,806·7	24,677	21·56	4	174	5,319 47
	1900	65	31,624·2	34,099	20·20	4	178	6,893 20
	1901	64	27,427·6	28,178	19·28	4	163	5,435 20
	1902	41	16,981	19,162	23·89	4	184	4,578 48
	1903	58	30,482·1	33,286	20·05	4	184	6,675 14
Churchb'idge	1898	70	21,429	22,223	18·85	4	111	4,189 21
	1899	84	29,739·6	31,674	20·19	4	167	6,396 77
	1900	127	61,909·7	65,325	20·02	4	188	13,084 80
	1901	233	107,427·5	121,419	19·14	4	202	23,239 68
	1902	264	98,105·1	116,630	18·51	4	198	21,589 88
	1903	189	89,584·9	110,285	19·51	4	195	21,530 04
Edmonton	1898	48	12,346	17,068	18·80	4	156	3,209 19
	1899	49	14,149·9	17,322	20·96	4	160	3,631 56
	1900	51	18,693·7	17,089	20·60	4	168	3,520 61
	1901	59	17,210·9	16,508	20·00	4	153	3,302 29
	1902	37	13,012·8	14,217	19·93	4	143	2,833 92
	1903	51	14,557·0	16,348	19·76	4	122	3,231 40
Grenfell	1898	77	35,179	42,838	19·04	4	149	8,156 47
	1899	71	32,204·4	39,154	20·28	4	152	7,943 02
	1900	83	42,031·9	49,817	20·00	4	173	9,963 78
	1901	89	43,907·1	53,119	19·12	4	159	10,159 93
	1902	68	26,915·2	33,595	18·16	4	146	6,108 25
	1903	52	17,390·1	21,875	19·96	4	135	4,368 48
Innisfail	1898	105	39,003	57,717	20·40	4	184	11,775 55
	1899	156	68,924·8	86,040	20·69	4	184	17,805 53
	1900	130	84,429·2	89,402	20·05	4	184	17,926 15
	1901	131	83,588·3	90,484	19·16	4	184	17,338 49
	1902	118	90,329·6	99,245	20·86	4	184	20,709 49
	1903	180	118,428·5	141,372	19·34	4	184	27,338 41
Lacombe	1903	51	10,831·6	14,138	19·31	4	98	2,730 10
Maple Creek	1898	15	11,621	12,362	20·06	4	158	2,479 99
	1899	12	7,283·8	7,921	21·41	4	128	1,696 56
	1900	15	8,265·8	8,806	22·22	4	151	1,956 68
	1901	10	5,035·8	5,792	20·83	4	111	1,206 98
	1902	....	....	.. .	....	.	....	....
	1903	.. .	.... ..	.. .	....	..	....	.....
Moose Jaw	1898	39	31,580	37,999	20·00	4	179	7,603 53
	1899	34	27,974·7	34,915	20·48	4	191	7,152 62
	1900	31	24,826·9	32,285	21·50	4	195	6,943 86
	1901	24	15,542·1	20,500	20·19	4	182	4,140 21
	1902	14	13,244·8	16,741	20·70	4	185	3,466 28
	1903	11	5,446·7	6,953	21·94	4	145	1,526 02
Moosomin	1898	47	14,567	14,523	18·55	4	134	2,695 28
	1899	40	7,725·6	8,461	20·67	4	118	1,748 34
	1900	67	22,836·5	24,296	20·23	4	152	4,912 62
	1901	122	40,283·0	42,831	19·15	4	156	8,205 04
	1902	38	9,926·9	11,843	17·87	4	136	2,116 85
	1903	40	11,935·6	14,347	19·82	4	130	2,845 40

SUMMARY of the Business done at the various Stations throughout the Territories under the Management of the Dominion Government, for the Seasons 1898 to 1903 inclusive.—*Continued.*

NAME OF STATION		No. of patrons	Inches of cream supplied	Lbs. of butter manufactured	Average price realised at creamery	Mf'g charge per pound	No. of days in operation	Gross value of product
					Cts.	Cts.		
	1898	....	.....	.....	....	..	....	. ... ..
	1899	....	.....	.....	....	..	...	.....
Olds	1900	31	11,597·6	11,007	20·00	4	93	2,201 70
	1901	30	22,195·5	22,166	19·11	4	169	4,236 98
	1902	49	38,892·1	42,637	20·73	4	217	8,841 31
	1903	79	53,879·3	65,904	19·27	4	184	12,714 40
	1898	31	10,717	12,644	18·51	4	143	2,340 64
	1899	22	10,366·5	13,758	20·44	4	136	2,812 54
Prince Albert	1900	38	14,146·9	18,792	20·26	4	139	3,808 90
	1901	40	11,763·0	16,223	19·50	4	118	3,164 09
	1902	35	11,269·5	14,527	18·91	4	96	2,748 28
	1903	28	6,282·6	8,354	20·23	4	86	1,690 46
	1898	66	26,713	26,188	18·70	4	150	4,898 22
	1899	45	17,158·1	16,561	20·22	4	148	3,348 45
Qu'Appelle ..	1900	57	23,974·7	24,647	20·16	4	190	4,969 05
	1901	62	24,879·6	28,070	19·33	4	200	5,431 60
	1902	63	18,120·6	20,889	18·77	4	185	3,923 34
	1903	42	10,905·5	12,794	20·63	4	181	2,640 72
	1898	76	28,253	42,878	19·84	4	184	8,507 54
	1899	110	46,676	62,142	20·87	4	184	12,968 23
Red Deer....	1900	92	49,475	63,887	20·24	4	182	12,933 18
	1901	111	47,665·2	60,450	19·16	4	188	11,583 12
	1902	83	43,481·4	55,091	20·54	4	184	11,320 28
	1903	179	63,689·9	80,546	20·37	4	184	16,410 21
	1898	49	24,301	25,450	19·05	4	157	4,849 26
	1899	47	21,181·9	23,051	20·04	4	160	4,615 33
Regina	1900	49	24,267·8	24,645	20·18	4	182	4,973 95
	1901	77	32,563·6	34,601	19·43	4	187	6,724 41
	1902	63	24,327·7	25,952	18·82	4	180	4,884 44
	1903	15	6,532·5	7,241	21·69	4	152	1,572 22
	1898	76	21,343	18,779	18·15	4	139	3,409 85
	1899	45	13,898·3	13,190	20·07	4	139	2,647 58
Saltcoats.....	1900	53	19,771·5	18,650	20·09	4	156	3,747 34
	1901	53	16,618·9	15,117	19·21	4	153	2,904 37
	1902	32	6,633·9	6,490	17·99	4	109	1,167 78
	1903	37	9,569·8	9,866	19·77	4	132	1,951 32
	1898	18	8,631	10,202	18·92	4	153	1,930 49
	1899	13	7,929·1	9,197	20·49	4	146	1,884 46
Saskatoon ...	1900	10	8,411·5	10,398	20·14	4	161	2,094 97
	1901	8	4,437·1	4,372	19·35	4	137	846 18
	1902	....	. .....	.....	.. .	..	....	.. . ..
	1903	....	. .....	.. .	....	..	....	.....
	1898	....	.....	.....	....	..	....	.....
	1899	66	6,350·2	14,655	21·78	4	112	3,192 51
Tindastoll ..	1900	75	37,374·1	45,770	20·04	4	184	9,173 08
	1901	41	28,235·8	31,527	19·15	4	184	6,037 87
	1902	61	42,055·5	48,086	20·74	4	172	9,977 71
	1903	74	46,639·2	51,169	19·28	4	184	9,864 96

SUMMARY of the Business done at the various Stations throughout the Territories, under the Management of the Dominion Government, for the Seasons 1898 to 1903 inclusive.—*Continued.*

NAME OF STATION		No. of patrons	Inches of cream supplied	Lbs. of butter manufactured	Average price realised at creamery	Mf'g charge per pound	No. of days in operation	Gross value of product
					Cts.	Cts.		
Wetaskiwin	1898	58	8,576	27,136	20·08	4	192	5,449 65
	1899	71	14,815·4	32,350	20·99	4	184	6,789 29
	1900	66	16,384·1	33,770	20·01	4	184	6,787 70
	1901	27	7,918·1	12,185	19·17	4	160	2,338 10
	1902	....	.....	.....	...	.	..	.....
	1903	32	15,447·1	18,667	19·32	4	152	3,610 63
Whitewood	1898	85	41,271	44,308	19·07	4	166	8,450 52
	1899	89	30,276·5	42,284	20·07	4	175	8,485 70
	1900	68	32,892·4	37,038	20·07	4	183	7,434 50
	1901	76	30,848	33,700	19·14	4	150	6,470 68
	1902	37	6,272·5	6,982	18·39	4	121	1,291 11
	1903	50	11,899·4	13,940	19·28	4	125	2,694 97
Yorkton	1898	91	38,961	35,413	18·26	4	137	6,466 61
	1899	50	18,680	17,491	20·21	4	143	3,535 19
	1900	61	27,075·5	27,329	20·00	4	165	5,468 71
	1901	88	33,410	35,151	19·31	4	146	6,718 38
	1902	11	430·3	390	18·81	4	25	73 36
	1903	....	... .	.....	..	..	....	.....
The Territories	1898	1,051	396,606	484,948	19·22	4	....	93,740 67
	1899	1,072	407,095·8	501,907	20·70	4	....	103,492 32
	1900	1,169	560,989	637,052	20·32	4	....	128,794 78
	1901	1,345	600,957·1	672,393	19·40	4	....	129,483 60
	1902	1,014	449,998·9	532,477	19·64	4	....	104,630 76
	1903	1,231	553,243·6	663,066	19·66	4	....	130,336 43

The following is a revised list of the Territorial Creamery Companies:

Operated by Private Enterprise.

The White Swan Butter and Cheese Manufacturing Co., Bowden, Alberta.

The Springbank Cheese Factory, Springbank, Alberta.

Under the Management of the Dominion Government.

The Calgary Creamery Co., Calgary, Alberta.
The Edmonton Creamery Co., Edmonton, Alberta.
The Grenfell Creamery Co., Grenfell, Assiniboia.
The Innisfail Creamery Co., Innisfail, Alberta.
The Moose Jaw Creamery Co., Moose Jaw, Assiniboia.
The Moosomin Creamery Co., Moosomin, Assiniboia.
The Prince Albert Creamery Co, Prince Albert, Saskatchewan.
The Qu'Appelle Creamery Co., Qu'Appelle, Assiniboia.
The Red Deer Creamery Co., Red Deer, Alberta.
The Wetaskiwin Creamery Co., Wetaskiwin, Alberta.
The Whitewood Creamery Co, Whitewood, Assiniboia.

The Saltcoats Creamery Co., Saltcoats, Assiniboia.
The Churchbridge Creamery Co., Churchbridge, Assiniboia.
The Olds Creamery Co., Olds, Alberta.
The Tindastoll Creamery Co., Tindastoll, Alberta.
The Blackfalds Creamery Co., Blackfalds, Alberta.
The Lacombe Creamery Co., Lacombe, Alberta.

STOCK INSPECTION.

The usual statement is given below showing the details of the inspection of cattle and horse shipments as well as a comparative statement giving the figures for previous years.

The inspection of butchers' records of brands of animals slaughtered has been carried out by the North-West Mounted Police. Proceedings were taken against a firm of butchers for failing to keep the record required by the Ordinance. A fine of $5.00 was imposed.

X.—STOCK Shipments.—Comparative Statement.

DISTRICTS		EXPORTS				LOCAL SHIPMENTS			Total	
		East		West		Cattle		—		
		Cattle	Horses	Cattle	Horses	Stockers to Ranges.	Others	Horses	Cattle	Horses
East Assiniboia	1901	6,611	73	82	.....	4,378	262	18	11,333	91
	1902	9,117	201	305	.....	4,300	158	27	13,880	228
	1903	5,959	22	.....	... .	3,704	24	5	9,687	27
West Assiniboia	1901	9,322	527	227	8	4,148	1,292	900	14,989	1,435
	1902	17,158	868	280	15	2,344	2,824	3,703	22,606	4,586
	1903	6,168	1,458	3	25	3,032	2,671	4,648	11,874	6,131
North Alberta	1901	36	21	1,254	8	1,129	1,083	8	3,502	37
	1902	465	77	1,473	11	740	2,334	96	5,012	184
	1903	1,215	14	923	75	1,100	3,066	326	6,304	415
South Alberta	1901	13,631	3,518	6,627	297	3,046	844	1,655	24,148	5,470
	1902	21,557	3,270	7,505	418	475	4,272	3,874	33,809	7,562
	1903	16,937	3,148	6,447	353	2,908	5,176	6,015	31,468	9,516
Saskatchewan	1901	1,973	.. . .	.....	.....	1,517	.....	. ...	3,490	.....
	1902	2,193	.....	.....	.....	1,092	2,940	. ....	3,580	.....
	1903	1,183	16	... ..	....	758	146	.....	2,087	16
The Territories	1901	31,573	4,139	8,190	313	14,218	3,481	2,581	57,462	7,033
	1902	50,490	4,416	9,563	444	8,951	9,883	7,700	78,887	12,560
	1903	31,462	4,658	7,373	453	11,502	11,083	10,994	61,420	16,105

STOCK Shipments.

SHIPPING POINTS	INSPECTORS	EXPORTS				LOCAL SHIPMENTS		
		East		West		Cattle		Horses
		Cattle	Horses	Cattle	Horses	Stockers to Range	Others	
Fleming	L. Galbraith	11				362	1	5
Moosomin	R. Stewart							
Wapella	G. H. Morrison	53				240		
Whitewood	Wm. Gemmell, V.S.	451				458	17	
Broadview	J. Brennan	59				135		
Grenfell	John Walker					592		
Wolseley	G. H. Hurlburt	110				666	6	
Qu'Appelle Station	J. A. Lidgate	425				204		
Balgonie	J. R. Agar					206		
Churchbridge	B. D. Westman	250						
Langenburg	C. M. Langer	288				250		
Saltcoats	A. B. Lander	501						
Yorkton	T. V. Simpson, V.S.	3,462	22			591		
Manor	W. G. Davis	147						
Arcola	J. G. Hopper	202						
Oxbow	H. Paine, V.S.							
Alameda	A. R. Hopper							
Estevan	John Ellis							
Weyburn	W. H. Hunt							
EAST ASSINIBOIA		5,850	22			3,704	24	5
Regina	S. F. Callender	151				150		
Lumsden	A. S. Balfour							
Dundurn	L. Carson	163	22			341		
Moose Jaw	D. Y. McNair	70				*817	63	73
Swift Cut. & Rush L'ke	W. Millhurn	1,105	243			205		53
Maple Creek	W. A. Douglas	2,878	289	1	18	338	139	925
Medicine Hat	J. H. G. Bray	1,801	904	2	7	1,181	2,469	3,597
WEST ASSINIBOIA		6,168	1,458	3	25	3,032	2,671	4,648
Carstairs	J. B. Kelly	518					527	70
Olds	Wm. Dean	261		71			138	
Innisfail	H. A. Hetherington	20			23		217	66
Red Deer	A. B. Nash	1	6	220	46		417	28
Lacombe	J. N. Burdick	165	4	334		56	843	79
Ponoka	Andrew Reid	25	4				39	30
Wetaskiwin	P. A. Miquelon			112		257	597	
Leduc	J. S. Johnston			12		199	114	
Strathcona	A. C. Murphy	225		174	6	588	174	53
NORTH ALBERTA		1,215	14	923	75	1,100	3,066	326
Gleichen	J. J. Marshall	963	149				90	173
Calgary	R. Janes	1,638	791	3,013	118	744	697	728
Cochrane	W. B. Elliott	1,067	69	260	9	165	82	130
Morley	Frank Ricks	47		8				
Okotoks	John Paterson	171	63	20	16	31	150	65
High River & Cayley	D. E. Riley	3,929	139	1,148	48		1,815	451
Nanton	H. M. Shaw		19					16
Claresholm	C. Sharples	2,674	3	1,178			342	140

*260 to N. Dakota

STOCK Shipments—*Continued.*

SHIPPING POINTS	INSPECTORS	EXPORTS				LOCAL SHIPMENTS		
		East		West		Cattle		Horses
		Cattle	Horses	Cattle	Horses	Stockers to Range	Others	
Macleod	R. G. Mathews	2,458	1,009	605	4	561	...	1,688
Pincher	John Herron	1,302	192	205	151	1,407	570	856
Lethbridge	Thos. Scott	1,838	714	10	7	...	1,430	1,768
Coutts	H. Tennant	*850	...	...	...	.....	.....	.....
SOUTH ALBERTA		16,937	3,148	6,447	353	2,908	5,176	6,015
Prince Albert	Wm. Plaxton	350	...	.....	.....	758	146	.....
Duck Lake	W. J. Campbell		No	retu	rns			
Rosthern	J. H. Klaasen	....	...	..	...	...	..	.....
Saskatoon	John Art	833	16	...	.	.....	....	.....
SASKATCHEWAN		1,183	16	..	..	758	146	.....

* Chicago.

SHEEP.

The various questions relating to this branch of live stock husbandry are very fully dealt with in the report of the Secretary of The Territorial Sheep Breeders' Association. (See Appendix C.)

Health of Sheep.

The Commissioner of the North-West Mounted Police in his report to the Minister of Agriculture says:

Sheep have been mostly very healthy. The only report of scab was amongst two small bands in the Lethbridge district. They were all dipped, and eventually slaughtered for butchers' use, without having come into contact with any other sheep.

Tape worm.—Dr. Hargrave reports a large loss amongst some flocks from this disease, which had made such headway before being reported that treatment was nearly useless The loss occurred chiefly among the lambs and ewes. After the green grass started losses ceased.

Poisoning.—Dr. Hargrave also reports considerable loss amongst sheep during the month of May last from eating the young "Death Camas" plants, one rancher in one night losing about 150 head out of a flock of 2,000 sheep.

Abortion of Sheep.

For several years a number of the ranchers have sustained heavy losses through ewes prematurely dropping their lambs. To such an extent did this prevail that The Sheep Breeders' Association asked for an investigation into the cause. A draft of questions to submit to the breeders was furnished by the Dominion Veterinarian and sent out by this department in the form of a circular given below to provide information on which to base the investigation:

1. How many breeding ewes do you keep?
2. What percentage of your ewes produced healthy living lambs in the year 1900 ..... ; 1901..... ; 1902..... ; 1903..... ?
3. What percentage have, to your knowledge, aborted in each of the years mentioned: 1900..... ; 1901..... ; 1902..... ; 1903..... ?
4. About what stage of gestation did most of these abortions take place?
5. To what do you consider the abortion in your flocks is due?
6. Do you consider it contagious?
7. On what grounds have you formed this opinion?
8. What precautions, if any, have you adopted with a view to stopping the abortion.
9. Were your ewes fed hay or otherwise?
10. In what condition did your ewes come through the winter?

Ergot of Western Rye Grass.

This was sent to 85 sheep breeders, and only 22 replies were received. Nine of these were from Eastern Assiniboia, and only three showed any loss from abortion. Nine replies were from Western Assiniboia, and seven of these showed losses of from ·01 to 35 per cent. Four reports from Alberta show a very small number of cases which all appear to have resulted from accidents.

Apparently only Western Assiniboia need be considered as affected and I here summarise the information furnished:

Abortions occurred mostly in March or April, the fourth or fifth month, but were not confined to that period.

On no ranche did abortions increase yearly.

In two flocks the loss was heavy in 1901, light or none the following year, and heavy again in 1903.

Four think the cause was rough herding, accident or poor condition.

Three blame badly cured grass, smut or weeds.

In one flock heavy losses occurred from tapeworm but no abortions.

Isolation of aborted ewes was only in one case thought to have any tendency to prevent spread.

Four believe that feeding salt; salt and sulphur; salt, sulphur and sulphate of iron; or salt and carbolic acid has a tendency to ward off abortion.

To most flocks a little hay was fed through winter.

Ewes that aborted were in fair condition generally.

The enquiry will be continued during the coming season.

Pending further investigation it may not be out of place to record some facts which indicate a solution of this problem. Ergot has been found very plentiful in grasses growing on the ranges, not only during the growing season but in winter and spring in heads which may be seen standing above the snow, and are thus accessible to sheep about the time abortions occur. Ergot is known to produce abortion, therefore it is reasonable to conclude that some sheep on the ranges may have been affected by this. The safest place then for the flock of gravid ewes would be on pasture which had been closely cropped during the growing season or had been mown over.

The cuts show heads of native grasses affected by ergot which is a fungus growth in the grass appearing as a purplish black spur where otherwise the grass seed would have been.

Ergot of Pony Grass.

Summary of District Reports.

Eastern Assiniboia.—The number of persons keeping sheep in this district has not increased, as some are getting rid of their sheep, principally because of coyotes, and this more than offsets the new arrivals who have taken up this branch of farming. Fully 50 per cent. of the flocks are small, being under fifty, and very few number over one hundred head. The increase during the past season was fully as good as usual and in most cases good weather prevailed during lambing time. At least 50 per cent. of the returns contain complaints of the ravages of the coyote or prairie wolf and in many cases a bounty is suggested as very desirable. The flocks are mostly of obscure breeding but Leicester and Shropshire blood predominates with a few Cotswolds. The majority of rams in use were procured locally and some 25 per cent. imported from Manitoba or Ontario. The season was too wet and cold for sheep to do well but no diseases were reported. A few flocks were badly infested with ticks. The prices received for wool ranged from six to ten cents, being in some cases a half and even three and a half cents more than the price last year. The weight of the fleece averaged about eight lbs., ranging from four to twelve and one-half lbs.

Western Assiniboia.—The season has been rather a disastrous one to the sheep industry in this ranching district. Many flocks came badly through the winter owing to crusted snow in February and March. Abortion was much less prevalent and was reported from very few ranches. Some bands were badly infested with tapeworm and many losses were sustained not only through deaths but also through failure of the ewes to breed. The storms between 16th and 24th May killed at least 50 per cent. of the lambs and also many of the old sheep. The majority of the flocks were originally from Montana and of Merino breeding, but in most cases have been bred to Shrop or Oxford. Some of the sheep are so run down constitutionally from breeding from cross bred ewes and grades that they are not able to withstand hardship or return an adequate profit to their owners. The most successful ranchers have been those who have practised line breeding to some extent. A few flocks are headed by the Delaine or the Rambouillet. The weight of fleece shorn varied from 3 lbs on some ranches to 6½ on others averaging about 5 lbs., and was sold at 9 to 13 cents which was fully 2 cents better that the previous season's figures.

Northern Alberta.—The number of farmers keeping sheep is rather decreasing than otherwise, chiefly because of the expense incidental to fencing out the coyotes. Only about half a dozen flocks in the district number over 100 head. The weather was by most correspondents reported as being favourable at lambing time No serious losses occurred from disease, and, but for some foot-rot, sheep were quite healthy. The flocks are mostly headed by Shrops but here and there a Leicester is used. The average fleece was slightly lighter than in 1902, being about 6¾ lbs., but the weights varied from 3 to 9 lbs. Prices obtained were by no means regular, being as low as 5 cents at some points and up to 10 cents at others.

Southern Alberta.—Most of the sheep held in this district are handled in large bands under ranching conditions but complaint is made that the industry is being killed by unfavourable grazing regulations. Owing to stormy weather most of the lambs on the larger ranches were lost when a week or two old; some were also lost at a later date from

the effects of speargrass. Some ranches lost sheep in the winter through smothering during storms, and in early summer a number of deaths were reported from poisonous weeds. Flocks are mostly of Merino derivation, Shrops and Oxfords being used on them. The highest average weight of fleece was 12 lbs. from pure bred Rambouillet, but aside from this the average fleece was about 6¼ lbs. Prices received for the clip varied from 6½ to 12 cents, averaging 9¾.

Saskatchewan.—Sheep breeders are so few in Saskatchewan that there is little to found a report on. The market was good for all the early lambs raised. Wool sold for 10 cents a pound and averaged 9 lbs. to the fleece. The flocks are of very mixed breeding with Shropshire rams in some cases, in others only grades.

SWINE.

There are now some eighteen meat packing establishments in active operation in the Territories but so far these appear to have been able to do little more than satisfy local demands with the exception of one or two of the larger concerns in Alberta which do a considerable trade in hog products with the Kootenay country and even with Yukon points. It is likely that the next few years will see an important development in swine husbandry in the Territories. No statistics are at present available as to the number of hogs held by farmers but there are indications that it is steadily increasing in the mixed farming districts. There are now a number of men working along quietly and turning out first class animals and the effect of this will likely make itself manifest at no very distant date in our export bacon trade. The table given below, compiled from information kindly furnished by the Commissioner of Customs, Ottawa, gives a fair indication of the present status of the pork and bacon trade of the West and indicates some of the possibilities that lie before the Territories. There seems to be no reason why the bulk of this trade should not eventually be captured by the farmers of the Territories. No doubt the large quantities of feed and no grade wheat which resulted from last season's crop will turn many minds in the direction of pork production, which is certainly the most profitable use such grain can be put to. The usual statistics of prices for live and dressed pork at Winnipeg and Edmonton are subjoined.

XI.—QUANTITY and Value of Pork and Bacon and Hams imported into Western Canada from the United States in 1902 and 1903.

IMPORTING PROVINCE OR TERRITORY	PORK				BACON AND HAMS			
	1902		1903		1902		1903	
	Quantity lbs.	Value	Quantity lbs.	Value	Quantity lbs.	Value	Quantity lbs.	Value
Manitoba	25,080	$3,030	13,510	$1,311	263,406	$ 34,975	213,496	$ 24,218
British Columbia	31,984	3,058	39,378	3,956	2,491,034	324,417	1,179,196	166,651
Yukon Territory	28,603	3,384	29,277	3,227	894,069	131,786	1,091,493	170,577
N.-West Territories	.....	.....	.....	.....	229,676	25,810	294,060	33,393
Totals	85,667	$9,472	82,165	$8,494	3,878,185	$516,988	2,778,245	$39 4,83

XII.—PORK Prices.

MONTH	WINNIPEG LIVE 1899 per 100	1900 per 100	1901 per 100	1902 per 100	1903 per 100	WINNIPEG DRESSED 1899 per 100	1900 per 100	1901 per 100	1902 per 100	1903 per 100
January	$4.75	$4.75	$5.12½	$6.50	$6.25	$6.25	$6.50	$6.25	$8.00	$7.50
February	4.75	4.75	5.25	6.75	6.25	6.25	6.50	6.41⅔	8.00	7.50
March	4.75	5.00	5.37½	6.00	6.00	6.25	6.50	6.75	7.50	7.50
April	4.75	5.00	5.25	6.00	6.00	.....	....	6.75	7.50	....
May	4.75	5.25	5.68¾	6.25	6.25	.....	....	7.50	7.75	.....
June	4.75	5.00	5.87½	6.50	6.25	.....	.....	8.25	8.00	.....
July	4.75	5.00	6.00	6.25	6.00	.....	.....	8.25	7.75	.....
August	4.75	5.00	6.37½	7.00	6.00	....	.....	9.00	8.75	....
September	5.12½	5.25	6.68¾	7.00	6.25	.....	.....	9.41⅔	8.75	.....
October	5.12½	5.50	6.87½	7 00	6.00	5.75	....	9.00	8.75	7.00
November	4.75	5 25	6.25	6.75	5.50	5.75	6.50	8.62½	8.25	7.00
December	4.75	5.00	6.37½	6.25	5.00	5.75	6.50	7.37½	8.00	7.00

MONTH	EDMONTON LIVE 1899 per 100	1900 per 100	1901 per 100	1902 per 100	1903 per 100	EDMONTON DRESSED 1899 per 100	1900 per 100	1901 per 100	1902 per 100	1903 per 100
January	$4.25	.....	$4.50	$4.75	$4.75	$5.75	$6.12½	$5.75	$5.75	.....
February	4.25	.....	4.41⅔	4.50	4.75	5.75	6.12½	5.75	5.75	....
March	4.25	.....	4.62½	4.50	4.75	5.75	6.12½	5.75	5.75	.....
April	4.25	5.12½	4.75	4.75	4.75	5.75	.....	5.75	5.75	....
May	4.25	5.12½	5.06½	4.75	5.37½	5.75	....	5.75	5.75	....
June	4.25	5.12½	5.00	4.75	5.75	5.75	.....	5.75	5.75	....
July	4.62½	5.12½	5.00	4.75	5.75	6.00	.....	5.75	5.75	....
August	5.25	5.12½	5.18	4.75	5.75	6.75	....	5.75	5.75	....
September	5.25	5.12½	5.41⅔	5.25	5.87½	6.75	..	6.25	6.25	.....
October	4.75	5.12½	5.41⅔	5.25	6.37½	6.25	....	6.25	6.25	....
November	4.75	....	5.50	5.25	5.50	6.00	6.12½	6.25	6.25	.....
December	4.50	....	5.50	4.75	4.25	5.75	6.12½	5.50	5.75	.....

SWINE BREEDERS' ASSOCIATION.

During the year the organisation of the Territorial Swine Breeders' Association was effected and an account of the proceedings in connection therewith, as well as the report of the Secretary for the past year, will be found in Appendix D to this report. There is important work in the interests of the swine breeders of the Territories before this association and it should receive hearty support.

IMPROVEMENT OF SWINE.

One of the chief obstacles in the way of rapid expansion of the swine industry in the Territories is the high cost of transportation. Few farmers are in a position to commence swine breeding operations on a large scale, such as would justify the importation of pure bred animals

from eastern points by the carload, and must content themselves with securing a few good sows and a boar. While such can now be obtained from a number of breeders in the Territories the only method of transportation available for small shipments is by express, the charges for which are so high as to be practically prohibitive. Taking these circumstances into consideration the department has felt justified in undertaking during the past few years the importation of a number of pure bred swine of the bacon type and selling the same by public auction in small lots throughout the country. The agents for the Calgary and Edmonton and The Qu'Appelle, Long Lake and Saskatchewan Railway, as well as The Canadian Pacific Railway Company, have in the past exhibited keen interest in this movement and have put the same into practical effect—the former by financial assistance and the latter by granting free transportation for the shipments and special privileges in the manner of handling cars so that sales could be promptly held on the dates advertised. Under these arrangements the department had up to the end of 1902 brought in from Ontario and distributed throughout the Territories some 681 pure bred and high grade sows and 122 pure bred boars, and last year it was felt that results should have been produced which would justify the department in going further in the matter and, while continuing the policy of distribution, at the same time assist the breeders of the Territories having satisfactory animals to dispose of by purchasing from them. Steps preliminary to the above were accordingly taken by the issue of the following departmental circular dated January 17, 1903:

Your name appears on the list of those who purchased pure bred sows at the last series of auction sales held by the Territorial Government, and I am directed to inform you that this department will probably require a couple of carloads of pure bred boars and sow pigs of the Yorkshire and Berkshire breeds, eligible for registration, during the month of October next. The pigs required will have to be of a standard fully up to those recently sold in Eastern Assiniboia by the department, well nourished and developed, and the department will be prepared to pay a reasonable price for such animals.

If you will have any pigs for sale, such as are described above, kindly advise me soon after your sows farrow next spring, stating the number you have for sale, how many of each sex, name and registration numbers of sire and dam and date of farrowing.

In May breeders were again communicated with and further particulars were given. A blank form was also supplied to each breeder on which to furnish information to the department as to the animals he would offer for sale. Pigs offered for sale were to be not less than five or six months old, in good condition, of desirable type and eligible for registration, to be collected by the department for shipment in the last week of October.

It appeared from the replies received to the last mentioned communication that the best part of a car load could be procured along the main line of The Canadian Pacific Railway Company between Fleming and Moose Jaw, and in order to secure a sufficient number of first class animals arrangements were made to make up any shortage that might occur, if buying were confined exclusively to those who had purchased pigs at previous departmental sales, by buying from any farmer who would be prepared to supply animals of the type required. Contemporaneously with the enquiries made as to the number available for purchase by the department correspondence was being carried on with leading men in various parts of the Territories as to where sales could be successfully held and as a result it was finally decided to confine the 1903 sales

to the line of the Calgary and Edmonton Railway, from Didsbury to Lacombe. In the beginning of September the following letter was addressed to all breeders from whom it had been decided to buy:

Last May you were sent a circular letter stating that the department contemplated purchasing a shipment of pure bred swine during the month of October. The object the department has in making this purchase is to encourage the breeding of pure bred swine by those who made purchases at the auction sales by giving them an opportunity to sell the pigs they have not been able to dispose of otherwise. The department has decided to purchase a carload of boar and sow pigs—Yorkshires, Berkshires and Tamworths—and will pay nine cents a pound, live weight, for sow pigs and ten cents a pound for boar pigs. The boar pigs must be crated. The class of pigs that will be purchased is well grown animals of spring litters, five to seven months old by the 1st of November. They must not only be well grown but of standard type and correct conformation. No culls will be taken. It is not necessary that the pigs be registered, but they must be eligible for registration, *i.e.*, their sire and dam must be recorded. Sellers will also be asked to furnish an entry form, properly filled out as required by the Dominion Swine Breeders' Record, for each pig sold. Blank entry forms can be secured from Henry Wade, Registrar, Parliament Buildings, Toronto, Ontario. An agent of the department will be sent to inspect the pigs early in October. He will make his selection and tag them. Delivery of pigs is not wanted until the last week in October, when the pigs will be weighed and paid for. Just before the work of inspection begins word will be sent you as to the exact date on which the agent will be at your station, so that you may take him out to see your pigs and thus reduce the cost of inspecting, as far as possible. If you have any such pigs for sale, and are willing to dispose of them on the above terms, kindly fill in the blank form sent you in May and forward it to this office by return mail. If you have mislaid the blank form give the number of pigs you have for sale, also breed, age, and the registration numbers of their sire and dam. If you have already sent in a list it will not be necessary to do so again, unless you have sold a number of those you intended for the department.

Your prompt attention to this circular is requested.

The sales were extensively advertised by means of posters and in the local press. On representations made by the department, The Canadian Pacific Railway Company granted a special rate and made special arrangements for quick handling of the car, which contributed essentially to the success of the undertaking. The final arrangements for inspection, purchase and shipping of the pigs were placed in the hands of Mr. Geo. Harcourt, B.S.A., of the department's technical staff, who was assisted in this work by Mr. T. N. Willing. Both these gentlemen did a considerable amount of hard work and underwent much personal inconvenience in connection with this part of the undertaking but the result was that the car was properly fitted and loaded and the animals promptly taken over from the vendors as the car proceeded on its way west. On the purchase of pigs a voucher was given by one of the department's officials and the recipient was directed to mail it to the department at Regina. On this being done a cheque in payment was promptly issued.

I submit herewith the report of Mr. George Harcourt, B.S.A., on the final shipping arrangements and sales.

Report on Swine Sales by Mr. George Harcourt, B.S.A.

Buying pigs from purchasers at previous departmental swine sales being an altogether different proceeding from purchasing from breeders in Ontario, it was deemed advisable to make a certain amount of preliminary inspection in order to see whether the pigs already offered the department were up to the standard of those purchased in the East in previous years. It is pleasing to record that enough of this work was done to satisfy me that there was nothing to fear on this score and the shipment when finally gathered together reflected great credit on

those who are launching out on the breeding of pure bred swine. The real work of inspection began about the 15th of October when a visit was made to all those notifying the department that they had pigs for sale. I found as a rule that the pigs were well grown for their age and only a few were rejected on account of lack of quality or insufficient growth. When some of the breeders found that they were to be paid by the pound they immediately began to feed heavily with grain aiming to produce as great a weight as possible. The success attained in this by Mr. Philip Leech, of Grenfell, deserves more than passing notice. He had ten pigs, all of one litter, to sell and reference to the table given below will show that his eight boars averaged 200 lbs. each. These pigs were practically just six months old when weighed. The two heaviest tipped the scales at 256 lbs. each. The ten pigs netted him $213.42, not a bad sum for one litter. Paying by weight at the rate of ten cents a pound for boar pigs proved a good thing for him, but it was not anticipated that anyone would take advantage of this arrangement to force their pigs. Although his pigs were of exceedingly good form and choice in many ways, they were too big to catch the eye of the buyer and therefore difficult to sell without a loss in money value. This experience affords a useful lesson for future shipments. Where facilities offered the selected pigs were weighed at the time they were inspected, the balance being weighed the day they were shipped. All pigs had ear tags placed in their ears and these served throughout as a means of identification. The number of the ear tag was marked on the entry paper so that no mistake could be made, and this entry paper, properly filled out by the breeder, went with each pig as it was sold. A correct record was kept of the weight of each pig and accounts were made out for the seller to forward to the department for payment.

The following is a tabulated statement showing all particulars in regard to the purchases. The price paid for boar pigs was ten cents a pound live weight, and nine cents for sow pigs.

STATEMENT of Swine Purchases—October, 1903.

NAME	ADDRESS	BREED	BOARS			SOWS			Total Value
			No.	Wt.	Value	No.	Wt.	Value	
A. P. Crisp	Moosomin .	Yorks.	3	420	$42.00	2	200	$18.00	$ 60.00
L. W. Griffin ..	"	"	..	...	....	6	580	52.20	52.20
W. W. Peters.	"	" .	7	780	78.00	..	....	....	78.00
A. B. Smith ...	"	Berks..	..	...	....	1	200	18.00	18.00
A. T. Bartlemen	Wapella ...	Tam. .	9	1,068	106.80	13	1,411	126.99	233.79
A. B. Potter...	Whitew'd..	Yorks	2	317	31.70	3	448	40.32	72.02
Philip Leach...	Grenfell....	"	8	1,794	179.40	2	378	34.02	213.42
John Hunt.....	Wolseley ..	Berks..	1	203	20.30	1	171	15.39	35.69
W. T. Mooney.	Ind. Head..	Yorks.	2	180	18.00	1	90	8.10	26.10
Jno. Miller.....	"	"	..	...	....	3	447	40.23	40.23
F. T. Skinner..	Katepwe ..	"	3	464	46.40	3	533	47.97	94.37
C. G. Bulstrode	Qu'App. St.	Berks..	1	100	10.00	1	100	9.00	19.00
J. K. McInnis..	Regina. ..	"	1	146	14.60	3	352	31.68	46.28
E. Badley.....	Pense.....	"	1	200	20.00	.	...	....	20.00
R. McKell	Regina.....	"	2	306	30 60	1	125	11.25	41.85
Reg. Stk. Farm	"	Yorks.	12	1,800	180.00	14	2,290	206.10	386.10
John Hans.....	Caron	Berks..	2	318	31.80	2	347	31.23	63.03
W. V. Hans...	"	"	3	320	32.00	1	120	10.80	42.80
E. Carswell....	Penhold ...	Yorks.	3	490	49.00	3	490	44.10	93.10
	Totals	.....	60			60			$1,635.96

A suitable car was fitted up at Moosomin where the first shipment was made on October 27th. The sows were turned into one large pen, while the boars, in crates, were put up on an improvised deck. In some cases where a number of boars were purchased from one man they were penned together to save room. The other purchases were picked up at various stations along the line to Moose Jaw. An additional shipment was received at Red Deer from E. Carswell, of Penhold. From Moose Jaw the car was sent through to Carstairs, the first point at which a sale was to be held. The pigs arrived in first class shape although they had a couple of very hot days *en route*. A few days later a Berkshire boar was found dead in his crate, but this was the only animal lost in this way. Two sows were injured a little; one was tied too tightly with a rope around her feet by her owner when delivering her, which caused her legs to swell and become stiff; the other one had a foreleg sprained. Both would recover in a few days. The car was in charge of a reliable man who cared for and fed the pigs and assisted at the sales.

Sales were advertised for the following points:

Carstairs	Monday,	November	2nd
Olds	Tuesday,	"	3rd
Innisfail	Wednesday	"	4th
Red Deer	Thursday	"	5th
Lacombe	Friday	"	6th

The sale commeneed each day at 1 o'clock or as soon after as it was possible. Mr. S. W. Paisley, the auctioneer, announced the terms of the sale as follows:

Purchasers must pay cash and take delivery of animal immediately after the sale.

Each purchaser must sign an undertaking not to butcher, sell or otherwise dispose of the swine secured at the sale without permission in writing from the Department of Agriculture.

A low upset price, just sufficient to cover the purchase price and the cost of transportation, had been placed on each animal.

An average lot was picked out for each sale so that there would be no culling and so that the last lot offered would be of as high a quality as the first It was the intention to limit the total number sold at each point, but when the sales commenced the proposed limit was never reached. The limit placed on the number of each breed to be sold at a given point was frequently reached. At the time the sales were advertised the department was led to believe that the points previously mentioned would absorb all the pigs that had been bought. It was soon found that there would be quite a few pigs remaining unsold after the Lacombe sale. Consequently, acting upon instructions from Regina, I issued posters advertising additional sales, as follows:

Ponoka	Tuesday,	November	10th.
Wetaskiwin	Wednesday,	"	11th.
Leduc	Thursday,	"	12th.
Strathcona	Friday	"	13th.

Owing to the necessarily short notice that could be given those sales were not as well attended as they would have been otherwise. That at Wetaskiwin was almost a total failure because the party to whom a roll of posters was sent in ample time and a covering letter of explanation did not open them until noon of the day of the sale. The weather turned cold for the Leduc sale and continued cold right along. For the sale at Strathcona additional advertising was issued in the form

of handbills, which were distributed in Edmonton as well as Strathcona. Quite a number who saw these bills in the former place attended the sale and purchased one or more pigs each. After the auction sale was over a few sales were made privately to a number who were not quite satisfied with what had been previously offered. After every purchaser was satisfied there were still some twenty boars and a few sows unsold. These were taken out of the car, warmly housed at a livery stable, and a sale called for November 27th. In the meantime additional advertising was issued and left in the hands of a local auctioneer, H. H. Crawford, of Strathcona, to distribute and announce at forthcoming farm sales. The man in charge of the pigs was paid off and the auctioneer left for home. The sale on Nov. 27th was well attended and all the pigs were disposed of at fair prices. The sows sold well but there were too many boars, in fact there were too many in the car load although at the time they were purchased it was understood that there was a good demand for them. The following is a summary of the sales at each point.

STATEMENT of Swine Sales.—November, 1903.
Receipts.

Date of sale	Place of sale	Number sold						Total	Average price	Amount realised	Number of individual purchasers
		Yorks.		Berks.		Tams.					
		Sows	Boars	Sows	Boars	Sows	Boars				
Nov. 2	Carstairs	7	3	2	1	....	....	13	$18.52	$240.75	7
" 3	Olds	....	..	2	2	...	....	4	14.08	56.30	2
" 4	Innisfail	6	1	1	1	1	...	10	13.70	137.00	6
" 5	Red Deer	6	3	1	1	1	...	12	14.75	177.10	8
" 6	Lacombe	3	6	....	1	1	....	11	14.50	159.50	10
" 10	Ponoka	4	1	....	....	...	....	5	16.00	80.00	1
" 11	Wetaskiwin	...	3	....	....	1	..	4	17.87	71.50	4
" 12	Leduc	4	5	1	1	....	1	12	14.62	175.50	9
" 13, 14 & 27	Strathcona	6	17	1	3	9	8	44	10.45	459.75	28

Besides the above 115 pigs, four were supplied to men whose purchases at the previous year's sales had died shortly after arriving at home. Two of these went to Whitewood and were dropped off while the car was at that point gathering pigs. Of the other two, one went to Claresholm and the other to Macleod. Valuable assistance was rendered by Mr. C. W. Peterson in connection with the reshipping of the two latter pigs from the car when it was in Calgary. These pigs, together with the boar that died, complete the 120 head that were purchased.

GEO. HARCOURT.

It will be noted that the swine sales of last year differed from those previously held in the following particulars: (1) The animals were purchased from Territorial breeders, thus affording them a market and at the same time distributing high class swine stock at points where there was a demand for it. (2) The shorter haul enabled the animals to be landed at sale points in much better condition, with much less risk of loss and at a lower cost for feed and attendance. Mr. S. W. Paisley, of Lacombe, an experienced live stock auctioneer, conducted the sales. Considering the fact that a rather high price was necessarily paid for

the swine, that four animals were given to purchasers at previous years' sales whose animals had died shortly after delivery, and that one died and two were slightly injured *en route*, it was not expected that the shipment would pay for itself, nor did it do so. The shortage was not considerable, however, and forms a legitimate charge against the appropriation for developing the production and interchange of pure bred stock within the Territories. On the whole the results have been sufficiently satisfactory to justify the department in undertaking further sales in a different district during the current year.

BRANDS.

Contrary to anticipations the volume of business conducted by the brand branch of the department shows no tendency to decrease. Nearly 1,000 more brands were allotted in 1903 than in the previous year, while the transfer business increased about 50 per cent. in the same period. The work now occupies the entire time of two clerks and one stenographer.

As difficulty was beginning to be experienced in the allotment of cattle brands, owing to the limitations as to the nature of designs imposed by The Brand Ordinance, an amendment to the Ordinance was passed at the first session of the Assembly in 1903, which so extends the choice of available designs as to render any likelihood of a recurrence of the difficulty an extremely remote possibility.

The following statement shows the transactions of this branch of the department up to the end of the past year:

Transfers	1899	132	
	1900	165	
	1901	222	
	1902	265	
	1903	400	
Changes	1899	—	
	1900	27	
	1901	20	
	1902	26	
	1903	43	
Searches and extracts	1899	—	
	1900	35	
	1901	42	
	1902	100	
	1903	144	
Total number of brands reallotted			3,228
Cattle brands	1898	2,111	
	1899	1,466	
	1900	1,508	
	1901	1,689	
	1902	1,934	
	1903	2,390	11,098

Horse brands.....	1898....	941
	1899....	821
	1900 ...	886
	1901....	947
	1902 ...	1,234
	1903....	1,390—6,219
Total brands on record up to 31st December, 1903..		20,545
Total transactions in 1898		6,280
" " 1899.....		2,419
" " 1900.....		2,621
" " 1901.....		2,920
" " 1902.....		3,559
" " 1903.....		4,367—22,166

Some trouble has in the past been experienced through brand owners branding in wrong positions caused by their having only casually examined their certificates before branding. On discovering their mistake it has been the custom to apply to the department for permission to use the brand as placed on the animals, which permission it is almost invariably impossible to grant, thus causing much inconvenience and loss of time in branding. In order to obviate this difficulty a new form of certificate was devised and taken into use which shows the brand on the allotted position by means of an outline figure of an animal. No mistakes of the kind indicated above have come to the notice of the department since the new certificate was adopted. Owing to the immense number of brands allotted since the work was taken over by the department it has been found necessary to compile a new index of brand designs. This book is indispensable in order to allow of searches being made and to prevent conflicting brands being allotted. The work proved one of no ordinary magnitude, as may be understood from the fact that over 20,000 brand designs, many of them for several positions, had to be individually dealt with. I am pleased to say that this important work has been nearly completed.

CHEMICAL BRANDING.

The department continues to receive enquiries relative to the effectiveness of the various branding fluids offered for sale as a substitute for the red hot iron. At the request of the department experiments with such fluids have been conducted by farmers and stockmen in different parts of the country. Up to the present the practical utility of these compositions has not been demonstrated nor have such unsatisfactory results been obtained only by the department. Hon. Will C. Barnes, of Dorsey, New Mexico, formerly an Arizona cattleman, has used this same branding fluid under range conditions, and, writing to the "Farmer's Review," expresses himself as follows concerning the New Zealand fluid tested by this department in 1901:

> For the man who, like myself, has from two to three hundred calves to brand at a time, I can see no way of using it successfully.
>
> In branding time on my ranch we usually cut out from two to three hundred calves, put them into a lane in the corral, cutting calves into one pen and cows into another. One man grabs the calf by the right hind leg, another grabs the tail, gives a quick jerk and the calf is on his side with one man holding his hind legs and another on his neck. No sooner does he hit the ground than a man is at

him with the iron, while at the same time another man marks and castrates, and this year a third man dehorned with a clipper. With two pairs of men to throw, one to run the irons, one to cut and mark, and one to dehorn, making seven men in all, we have frequently branded out ninety calves in an hour and kept it up at that clip for three or four hours.

Now I tried the branding fluid under such conditions: I first put it into a milkpan and used a cold iron. It took a long time for the fluid to penetrate the hair, and finally one vigorous calf kicked over my pan and spilled the fluid all over the legs of the man holding him. That settled the pan system, and I got a brush and painted it on. That worked all right but took time. But the worst feature of all was that crowding three or four hundred calves into a small pen that way, they smeared and rubbed the stuff all over each other, the sides of the corral and the men's clothes.

Branding time on a big ranch is a hurry-up period; everything is in a rush. To use the fluid means to take just about ten times as long as by the hot iron system.

During the past year trials were made for the department of what is known as The Australian Cold Branding Liquid, samples for the purpose being kindly furnished by the manufacturers, The Aberdeen Chemical Co., of South Dakota. The following are some replies received to the department's enquiries as to the results of the test:

I have tried the Australian Cold Branding Liquid which was sent me from the department. I branded in April. Cattle with long hair I clipped before applying liquid, using liquid according to directions. The skin where liquid was put on dried up and came off causing a new skin to form and the brand is indistinct. Others I branded without clipping off the hair. The hair came off but new hair grew on again leaving no brand to be seen. I also branded a spring calf in September and yesterday I clipped where the liquid was put on, it being indistinct, and when it was clipped you could see part of the outlines but not at all satisfactory. I may state that I used stencil and brush. This is my experience as near as I can put it.

In reply to your enquiry *re* branding fluid, I beg to state that last year I sent to Winnipeg for a stencil representing my legal brand. It never reached me; was lost somewhere in transmission. However about a month ago I branded two colts with a rude brand of my own make and as far as the branding fluid is concerned it disposed of all the hair and at present appears to be a perfect brand and permanent. I will again write you later on as soon as seeding is over with. I am going to brand 33 head of colts and calves. I did not get your letter until last week, hence the cause of delay in answering.

Replying to your letter of the 10th March, I beg to give herein my experience with the Australian Cold Branding fluid. I used the ordinary iron brand dipped in the fluid on a horse with his winter coat (without clipping hair) and it left a good impression, but did not last. I also used the fluid on nine months old foals, clipping the hair as close as I could with scissors with the result that I had to use the hot brand in summer for part of them, others still showing the brand more or less clearly, but not at this present time. It remains to be seen whether it will show up again when they cast the hair later on. I used the fluid similarly on a horse whose hair was completely rubbed off with the harness and it shows quite distinctly with the same conditions *now*, and always has been visible. In this case the effect of the brand seemed to be to raise the skin almost to a blister. Unfortunately when I tried these experiments the weather was generally very cold and I think the reason some of them didn't show up in summer was owing to not getting the fluid properly mixed on the fire. I tried the fluid similarly on a cow and it didn't remain throughout the season, I think owing to not clipping the hair sufficiently. I afterwards purchased a brush for further experiments but before I could use it the spring rains penetrated the roof of the house in which I used to heat the fluid and dropped into the vessel containing it so that I thought further trials useless, hence my not reporting before now. I am convinced that with care and knowledge of how best to use the fluid, it would be useful for any animals that could be handled quietly, such as broke horses, halter broken yearlings, etc., and cows used to handling, bulls, etc. I should be glad at any rate to *pay* for a further trial of it and would use it with a brush on calves of a day or so old *now* to prevent *theft*. It would be easiest used in early summer when hair is short on all animals.

PUBLICATION OF BRAND BOOK.

The usefulness of a stock brand depends largely on the amount of publicity accorded to it. This fact was recognised at the time The Brand Ordinance (Chapter 23 of 1897) was passed, a provision being inserted requiring the publication of brands allotted from time to time in the official gazette. This, however, was found to be unworkable in practice and this section of the Ordinance was amended in the following year as follows: "The Minister may at such times and in such manner as to him may seem desirable publish a complete list of the brands recorded under this Ordinance and may make a reasonable charge for the volume containing the same." In accordance with this provision in 1899 an arrangement was made with the publishers of The North-West Brand Book to issue an authorised list of brands on the department's books up to January 1, 1900. The manuscript for this was prepared and proofs corrected in the department and the book was published in the spring of 1900. A sufficent number of copies were purchased by the department to supply all pound keepers, stock inspectors and mounted police posts. Owing to the large number of new brands which continued to be allotted and the frequent changes in ownership of brands occasioned by transfers subsequent to the publication of this book, it very quickly became out of date and in the early part of last year arrangements were made for the issue of a new edition containing all brands on the books up to January 1, 1903. The work involved in the preparation of the manuscript for this book and indexing the same when completed was very considerable and this, in addition to the fact that the engraving of such a large number of designs was necessarily a slow process, did not permit of the book being placed in the hands of the public before the end of the year. The book when completed proved a compact and handy one of pocket size and satisfactory from a typographical point of view. No sooner was the work in connection with this out of the way than work was commenced on the manuscript of a supplement containing list of brands allotted and changes, transfers and corrections made during 1903. This book will be of considerable size and is expected to be available to the public early in 1904.

ANIMALS RUNNING AT LARGE.

As a result of the steady increase of settlement a large number of applications are being received by the department for additions of lands to the Herd District in those parts of the country in which The Herd Ordinance is effective. Every application is duly considered on its merits, and every attempt is made to ascertain the wishes of the settlers in the townships affected. This is often a matter of extreme difficulty, especially in those parts of the country where the wishes of the rancher and of the farmer with regard to the restraint of live stock show a tendency to clash. On the whole the Ordinance has worked smoothly during the year and in the public interest. The number of animals sold under the various Ordinances governing animals running at large shows a considerable increase over that of the previous years, the figures being 35 in 1902 as against 73 in 1903. Nearly every animal sold bore either no brand at all or an unrecorded one. Under the system pursued by the department there is absolutely no excuse for the owner of a recorded

brand losing permanently an animal bearing his brand, provided of course there is no crookedness connected with its disappearance, and it is therefore strange in view of this fact that there are still a large number of stock owners who neglect to protect themselves by securing and using legal brands.

Some misunderstanding appears to exist with regard to estray horses dealt with under The Estray Animals Ordinance, as the department is not infrequently asked to assist in securing payment for the expenses of keeping such animals. It should be clearly understood that the Ordinance (Chapter 30 of 1900) distinctly states that for the care and sustenance of horses no charge whatever shall be allowed. The object of the Ordinance is plainly not to encourage the "taking up" of estrays but rather to induce efforts to get rid of them.

MAVERICKS.

A judgment of great interest to western stockmen was given by the Hon. The Chief Justice at the sittings of the supreme court which were held in Medicine Hat in November last, when James Crawford, captain of the Grayburn round-up, was declared guilty of having stolen a steer the property of a German settler named Hermann, who resides at Josephsburg in the Medicine Hat district. The result of the judgment is to make the sale or other disposal of "mavericks" by members of the round-up a criminal offence. From the evidence it appeared that Hermann was the owner of a steer born in March, 1902. In June, 1903, the Grayburn round-up, of which the defendant was captain, picked up the steer which was still unbranded, and at the conclusion of their work, sold it with some other mavericks by public auction, the purchaser of the animal in question paying $19.50 for it. For the prosecution it was claimed that John Hermann, brother of the owner, claimed the animal as his own, previous to the sale. For the defence, evidence was given by several witnesses to show that the custom of selling mavericks at the close of the annual round-up had been in existence in the Medicine Hat district for nearly twenty years and that the same custom had prevailed for many years in other districts in the Territories as well as in Montana. At the close of the evidence, Mr. P. J. Nolan, of Calgary, who represented the accused, contended that although the practice which had been followed might be and very probably was, illegal, as being an unwarrantable interference with the rights of property, it was not nevertheless a criminal offence, there being no evidence whatever of any criminal intention on the part of the defendant who merely followed the custom which had prevailed for so many years.

The following is a report of the judgment in the case:

Chief Justice Sifton in giving judgment said he had no doubt that the defendant was guilty of the offence charged. Although the custom of which evidence had been given had been followed for several years, it did not give the round-up or any other person the right to sell unbranded cattle found on the prairie. In the present case the other members of the round-up were quite as guilty as the defendant and the members of the stock association by whom the round-up was instructed, and who received the proceeds of the sales, were no less guilty. In future the members of the round-up would do well to refrain from interfering in any way with unbranded cattle found on the prairie, and to leave such cattle severely alone.

It had been urged by the counsel for the defence that to allow unclaimed, unbranded cattle to run at large would offer great temptation to "rustlers," and would otherwise be a serious injury to the stock industry. He (the Chief

Justice) could only say that the stock associations were not justified in anticipating prospective stealing on the part of others by stealing such cattle themselves. The proceeds of the sales, as had been shown, were used for the purpose of defraying the expenses of the round-up, while the real owners of the animals suffered serious loss. Under the circumstances, this being the first case of its kind which had come before him, and as the recording of the conviction of the accused would make clear the opinion of the court as to the criminal nature of the practice of selling "maverick" cattle, it would be sufficient simply to find the defendant guilty, and to order his release on suspended sentence.

In another case against the same defendant in which there was no evidence of any claim having been made for the animal sold by the round-up, a conviction was also recorded and a similar order was made.

The usual statistics under this head are appended.

XIII.—STATEMENT showing Sales of Animals Illegally Running at Large since the year 1886.

Year.	Total Amount collected.	(1) Revenue	(2) Refunds
1886–1896 Total for 10 years.....	$ 79.85	$ 79.85	.....
1896—1897	95.95	95.95	.....
1898—1899 (16 months Department organised)	356.95	324.00	$ 32.95
1900.....	1,137.15	588.83	548.32
1901.....	789.53	581.97	207.56
1902.....	516.18	499.38	31.30
1903	1,088.79	963.04	125.75

(1) This column shows actual revenue from lapsed proceeds of sales deposited to the credit of the General Revenue Fund.

(2) This column shows the amounts of proceeds of sales paid to the rightful owners of stock disposed of under the Estray, Entire Animals and Herd Ordinances.

XIV.—Sales of Animals Impounded under The Herd Ordinance.

Poundkeeper.	Location	Class of animals.	First gazette notice.	Date of sale.	Net proceeds.
Donald McKeig	NE 22-18-10 w 2	Pony stallion, dark bay, white star on forehead	June 15, 1903.	July 15, 1903.	.....
John Fahlman	NE 32-15-17 w 2	Roau horse, six years old, branded O on right shoulder and jaw	June 15, 1903.	July 11, 1903.	$ 12.50
John Fahlman	NE 32-15-17 w 2	Pony	June 15, 1903.	July 11, 1903.	1.40
S. Beach	SW 34-16-20 w 2	Brown gelding, white star on forehead	June 30, 1903.	July 28, 1903.	48.10
S. Beach	SW 34-16-20 w 2	Brown mare, twelve years old; filly foal at foot; no visible brand	June 30, 1903.	July 28, 1903.	13.30
Mahlon Barager	SE 14-39-4 w 3	Bay horse, ten or twelve years old	June 30, 1903.	July 10, 1903.	15.50
E. S. Andrews	SE 30-36-5 w 3	Brown gelding pony, three years old, branded H on right shoulder. Brown gelding pony, two years old, JKIP cut on halter with rope attached	June 30, 1903.	Aug. 13, 1903.	30.00
Jas. W. Brunskill	S½ 14-16-22 w 2	*Cream filly yearling, no brand; brown pony* mare, white star on forehead, no brand, light cream horse foal with her	July 15, 1903.	Aug. 15, 1903.	17.35
Robert White	28-14-4 w 2	*Light bay horse, five or six years old*	July 15, 1903.	Aug. 11, 1903.	33.15
W. R. Jamieson	NE 32-19-21 w 2	Horse pony, light buckskin, blind, no brand	August 31, 1903	Sept. 5, 1903.	. .
William Busch	NE 18-23-31 w 1	Bay horse, white stripe down face	July 31, 1903.	Aug. 28, 1903.	1.75
James Campbell	SE 22-17-28 w 2	*Cow and calf*	*Sept. 30, 1903.*	Nov. 7, 1903	.....
James Campbell	SE 22-17-28 w 2	Red and white yearling steer	Sept. 30, 1903.	Nov. 7, 1903.	2.00
James Campbell	SE 22-17-28 w 2	Red spotted heifer	Sept. 30, 1903.	Nov. 7, 1903.	4.00
James Campbell	SE 22-17-28 w 2	*Dark brown mule, about two years old; bay* mare, about three years old, brand resembling Q on left shoulder	July 15, 1903.	Aug. 18, 1903.	45.40
A. B. Potter	SE 24-13-3 w 2	Bay gelding, *branded MF on right shoulder*	*August 15, 1903*	Sept. 29, 1903.	21.30
T. H. Ketcheson	NE 10-12-32 w 1	Bay colt, two years old, unbranded	August 31, 1903	Sept. 28, 1903.	33.25
T. A. Wallace	SE 15-12-19 w 2	Sorrel pony filly, three years old branded —25, with lazy *B* under	*October 30, 1903*	Nov. 11, 1903.	9.50
Mahlon Barager	SE 14-39-4 w 3	Small bay pony, branded UY on right hip, right shoulder O, on left shoulder NY	Sept. 30, 1903.	Oct. 12, 1903.	.....
W. Ireland	NE 16-1-32 w 1	Bay gelding, aged	*July 31, 1903.*	Sept. 4, 1903.	16.80
Alfred Hartung	NW 21-21-31 w 1	Cow and bull calf	Nov. 15, 1903.	Dec. 14, 1903.	10.95
Mahlon Barager	SE 14-39-4 w 3	Small black pony, unbranded, three years old	Sept. 30, 1903.	Oct. 12, 1903.	.....
Mahlon Barager	SE 14-39-4 w 3	Bay pony, branded *RN* on left hip	Sept. 30, 1903.	Oct. 12, 1903.	.....

XV.—SALES of Estray Animals.

Justice	Address	Class of animals	Date of capture	First gazette notice	Date of sale	Net proceeds
Wm. Graham..	Morley.	Mare, 15 hands, 9 years old	Dec., 1900.	March 15, 1902.	Feb. 3, 1903.	$73.70
Robert Stewart.	Whitford.	Dark red heifer, 2 years old, branded 8FX on left side.	Dec. 5, 1901.	July 30, 1902.	Feb. 6, 1903	13.28
Thos. H. Garry.	Yorkton.	Bay pony, white stripe on one hind foot	Fall of 1900.	June 30, 1902.	March 2, 1903.	8.00
A. C. Milne	Lacombe.	Mare and foal at side, both black, branded L on left shoulder.	July 1, 1902.	Sept. 30, 1902	April 25, 1903	9.30
R. T. Telford	Leduc.	Bright bay horse, 12 years old, branded 7 on left shoulder.	Mar. 1, 1900.	Jan. 31, 1902.	May 8, 1903.	26.25
C. Shantz	Lewisville.	Black pony, branded JP and lazy R.	Mar. 1, 1902.	Oct. 31, 1902.	May 2, 1903.	1.00
C. Shantz	Lewisville.	Buckskin pony filly, with white face, branded BL but hard to make out	About 1902.	July 15, 1902	June 3, 1903.	
C. H. Chapman.	Haynes	Buckskin cayuse pony, two years old	July, 1902.	Aug. 15, 1902.	April 20, 1903.	4.75
Edward Field	Fishing Lake.	Pony mare, 14 hands, unbranded	Oct. 27, 1902.	Jan. 15, 1902.	June 29, 1903.	17.50
J. Einarsson	Logherg..	Roan heifer, unbranded	Dec., 1902.	Dec. 15, 1902.	June 18, 1903.	2.65
A. S. Rosenroll, M.L.A.	Wetaskiwin	Dark red steer, unbranded.	Oct. 25, 1902.	Dec. 15, 1902.	July 22, 1903.	20.85
W. F. Carefoot	New Hope.	Bay pony, white spot on forehead and three white feet			July 8, 1903.	17.27
E. F. T. Brokovski.	Battleford.	Red and white spotted cow, branded M, with red and white calf, unbranded.	Nov., 1901.	Dec. 31, 1902.	Aug. 5, 1903.	25.05
Daniel White..	Cochrane	Brown mare, branded M on left shoulder. S on left side of neck	July, 1902.	Dec. 31, 1902.	July 15, 1903.	42.55
A. E. Banister.	Davisburg.	Cayuse mare and colt. Mare branded M on left shoulder; colt unbranded	Dec., 1902.	March 15, 1903.	Sept. 1, 1903.	11.40
C. D. Algar	Ponoka	Horse and colt.	Feb. 24, 1903.	Feb. 28, 1903.	Aug. 18, 1903.	59.35
J. W. Carroll	Saddle Lake	Mare and horse colt; brown mare, about seven years old, branded three quarter circles on left shoulder; colt chestnut.	Oct., 1902	Dec. 31, 1902.	July 28, 1903.	26.22
R. A. Mackenzie.	Logan	Cayuse horse, mouse coloured, white nose, right front foot white, no brand..	March 2, 1903.	March 15, 1903.	Sept. 17, 1903.	5.22

A. S. Rosenroll, M.L.A.	Wetaskiwin	Black steer, three and a half years old, brand resembling CL on right hip	Feb. 1, 1903	Feb. 14, 1903	Dec. 2, 1903	8.05
W. R. Motherwell	Abernethy	Clyde mare; one buckskin pony mare and foal; one yearling filly; no brands. Clyde about six years old and halter broken.	June 1, 1903	June, 1903	Dec. 31, 1903	202.25
A. W. H. Thompson	High River	Bay horse, weight 1,100 lbs., branded S1 on right shoulder	Nov. 16, 1902	Nov. 29, 1902	May 2, 1903	59.55
G. F. Guernsey	Fort Qu'Appelle	Red and white steer, four years old, unbranded	July, 1902	Jan. 15, 1903	Aug. 3, 1903	50.50
G. F. Guernsey	Fort Qu'Appelle	Roan heifer, two years old, unbranded	July, 1902	Jan. 15, 1903	Aug. 3, 1903	11.50

XVI.—SALES of Estray Entire Animals.

Justice.	Address.	*Class of animals.*	Date of capture.	First gazette notice.	Date of sale.	Net proceeds
J. Hollis	Kutawa	Bay stallion, seven years old, branded AK on right shoulder	March 1, 1903	Mar. 31, 1903	May 18, 1903	$ 62.75
G. F. Guernsey	Fort Qu'Appelle	Dark brown stallion, two years old, branded NA on left hip	.....	May 30, 1903	July 7, 1903	22.52
C. L. Peterson	Didsbury	Stallion colt, no brand	June 8, 1903	June 15, 1903	July 18, 1903	.....
C. Sharples	New Oxley	Pinto stallion, two years old, branded CS on right shoulder	May 14, 1903	June 15, 1903.	July 28, 1903.	....
Wm. Rowland	Riversdale	Bay stallion, three years old	August 28, 1903.	Oct. 30, 1903.	Dec. 8, 1903	1.78
Wm. Logan	Wapella	Red and white bull, two years old	June 23, 1902	July 15, 1902	Jan. 24, 1903	4.75
A. S. Rosenroll, M.L.A.	Wetaskiwin	Black muley bull, white face	Oct. 15, 1902	Nov. 30, 1902	May 20, 1903	0.50
J. Einarsson	Logberg	Red bull, unbranded	April, 1902.	Feb. 15, 1903	May 6, 1903	4.05
E. F. T. Brokovski	Battleford	Brown pony stallion	.....	Nov. 11, 1902	Jan. 5, 1903	.....
Chas. B. Phillips	Asker	Yearling bull, unbranded	Dec. 19, 1902	Dec. 31, 1902	Feb. 9, 1903	.....
E. F. T. Brokovski	Battleford	Chestnut pony stallion, four years old	Nov. 1, 1902	Jan. 15, 1903	April 11, 1903	.....

THE HERD DISTRICT.

The herd district, as constituted up to the 31st December last, includes the following areas:

Lying west of the First Meridian—

Range 30, townships 1, 2, 3, 4, 5, 6, 7, 10, 11, 15, 16 and sections 1 to 24 inclusive in township 17, townships 22 and 23.

Range 31, townships 1, 2, 3, 4, 5, 7, 10, 11, 12, 13, 14, 15, 16 and that portion of township 17 lying south and east of the Qu'Appelle river, townships 21, 22 and 23.

Range 32, townships 1, 2, 3, 11, 12, 13, 14, 15, 16 and sections 1 to 24 inclusive in township 17, township 21.

Range 33, east half of township 1, the four eastern rows of sections in township 2, the east half of township 3, townships 12, 13, 14, 15, 16 and sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24 in township 17.

Range 34, fractional townships 12 and 13.

Lying west of the Second Meridian—

Range 1, township 1, townships 1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, and sections 5 and 6 in township 17.

Range 2, townships 1, 2, 3, 4, 5, 6, 7 sections 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 28, 29, 30 and 31; the east halves of sections 22, 23, 24, 25, 26, 35 and 36, and the west halves of sections 32, 33 and 34 in township 13, townships 14 and 15, sections 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 24, 25, 26, 27, 28, 35, 36 and east half of 20 in township 16 and sections 1 and 2 in township 17.

Range 3, townships 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 15 and sections 1 and 12 in township 16.

Range 4, townships 1, 2, 3, 4, 12, 13, 14, 15.

Range 5, townships 1, 2, 3, 4, 7, 8, 13, 14, 15 and 16.

Range 6, townships 1, 2, 3, 7, 8, 16.

Range 7, townships 2, 3, 15, 16, 17, 18, 19*a*, 19, 20.

Range 8, townships 2, 3, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23.

Range 9, townships 2, 12, 13, 14, 15, 16, 17, 18, 19*a*, 21, 22, 23.

Range 10, townships 12, 13, 14, 15, 16, 17, 18, 19*a*, 19, 20, 21 and fractional township 22.

Range 11, fractional township 15, township 20 and fractional township 21, those portions of sections 5, 6, 7, 8, 17, 18, 19, 20, 29, 30, 31 and 32 in township 22.

Range 12, townships 20, 21 and 22.

Range 13, township 20.

Range 14, townships 8, 9, 16, 17, 18 and fractional township 14, also all those portions of townships 21, 22, and 23, lying west of Jumping Deer Creek.

Range 15, townships 7, 8, 9, fractional township 21 lying north of the Qu'Appelle lakes and townships 22 and 23.

Range 16, townships 7, 8, 9, 10 fractional township 22 and sections 1 to 25 inclusive in township 23.

Range 17, townships 7, 9, 10, 15, 16, 17, 18, 19, fractional townships 20 and 21, township 22 and south half of township 23.

Range 18, townships 11, 12, 13, 14, 15, 16, 17, 18 and 19.

Range 19, townships 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16 in township 21.

Range 20, townships 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.

Range 21, townships 14, 15, 16, 17, 18, 19, 20, 23, 24.

Range 22, townships 14, 15, 16, 17, 18, 19, 20, 22, 23, 24.

Range 23, townships 15, 16, 17, 18, 19, 20 and those portions of townships 22 and 23 lying east of Long lake.

Range 24, townships 15, 16, 17, 18.

Range 25, townships 15, 16, 17, 18, 19, 42 and 43.

Lying west of the line between townships 25 and 26 west of the Second Meridian—

Range 26, townships 15, 16, 17, 18 and those portions of townships 19 and 20 lying west of Highpound Lake, also 42 and 43.

Range 27, townships 16, 17, 18 and that portion of township 20 lying west of the Qu'Appelle river, also townships 42 and 43.

Range 28, townships 17 and 18.

Range 29, township 18.

Lying west of the Third Meridian—

Range 1, that portion of section 18 township 24*a* lying north of the south branch of the Saskatchewan river, and those portions of sections 5, 6, 7, 8, 17 and 18 in township 42 lying west of the south branch of the Saskatchewan river.

Range 2, townships 34, 35, 40, 41, 42, 43*a*, 43.

Range 3, townships 33, 34, 35, 39, 40, 41, 42, 43*a* and fractional township 43.

Range 4, townships 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43 and 44.

Range 5, townships 30, 35, 36, 37, 39, 40, 41, 42 and those portions of townships 43 and 44 lying south and east of the Saskatchewan river.

Range 6, townships 36, 40, 41 and those portions of townships 42 and 43 lying east of the Saskatchewan river.

Range 7, those portions of townships 41 and 42 lying east of the Saskatchewan river.

POUND DISTRICTS.

The following areas have been set apart up to the end of the past year under The Pound District Ordinance, in addition to those formed under The Village Ordinance.

No. 1.—Sections 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33 and 34 in township 22 range 14 and sections 12, 13, 24, 25 and 36 in township 22 range 15, all west of the second meridian; poundkeeper, Alfred Bailey of Parklands, Fort Qu'Appelle, Assiniboia. Pound on north-west quarter of section 28 township 22 range 14 west of the second meridian.

No. 2.—Those portions of townships 37, 38 and 39 in ranges 26, 27, and 28 west of the fourth meridian lying south of the Red Deer river. This district was constituted in 1897 but no poundkeeper was apparently appointed.

No. 3.—Sections 15, 16, 17, 20, 21, 22, the south half of section 27, the south-east quarter of the north-east quarter of section 27 all in township 47 range 27 west of the second meridian; poundkeeper, Edwin Anderson of Kirkpatrick, Saskatchewan. Pound on the north-west quarter of section 27 township 47 range 27 west of the second meridian.

No. 4.—Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17 and 18 in township 7 range 20; sections 1, 2, 3, 10, 11, 12, 13, 14 and 15 in township 7 range 21; township 6 range 20 with the exception of sections 14, 24, 25, 26, 35 and 36; sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36 in township 6 range 21; township 5 range 20; also the east half of township 5 range 21, all west of the fourth meridian; poundkeeper, W. S. Johnson, Raymond, Alberta.

No. 5.—Sections 6, 7, 18, 19, 30 and 31, township 35 range 26; sections 6, 7, 18, township 56 range 26; fractional sections 31, 32, 33, 34, 35, 36, township 54 range 27, north of the Sturgeon river; township 55 range 27; and fractional sections 1, 12, 13, township 56 range 27 all west of the fourth meridian; poundkeeper, Onezime Comeau, Riviere-qui-Barre, Alberta.

BULL DISTRICTS.

Set apart under Clause (2) of Section 4 of The Entire Animals Ordinance:

District No. 1.—All that portion of the Provisional District of Alberta lying south of townships 34.

District No. 2.—Townships 39, 40 and 41 in ranges 26 and 27 west of the fourth meridian.

District No. 3.—All that portion of the Provisional District of Assiniboia lying west of a line which may be described as follows: Commencing at the point where the international boundary is intersected by the line between ranges 15 and 16 west of the second meridian and following the said line northerly until its intersection with the line between townships 14 and 15; thence westerly along said line to the third meridian; thence northerly along the said third meridian to the northerly boundary of the said Provisional District of Assiniboia.

District No. 4.—All that part of the Provisional District of Saskatchewan lying west of range 11 west of the third meridian.

District No. 5.—Townships 48, 49, 50 and 51 in ranges 1, 2, 3, 4, 5, 6 and 7 west of the third meridian.

District No. 6.—Townships 51, 52 and 53 in range 17 west of the fourth meridian.

DESTRUCTION OF WOLVES.

In November last, in view of the importance of the work carried on in connection with the destruction of wolves and the strain on the financial resources of The Territorial Stock Growers' Associations by the payment by them of half of the liberal bounties now offered, it was considered advisable to make certain changes in the regulations for the payment of bounties which had up to that time been in force. The new regulations are given below at length and it will be seen that the Government now assumes liability for the repayment in full to the associations of all moneys expended by them in bounties, up to the extent of the Legislative appropriation for the purpose. The following payments were made, partly of course under the old regulations:

Western Stock Growers' Association.....	$1,965.00
Willow Bunch Stock Growers' Association.....	5.00

The bounties paid by the Western Stock Growers' Association are at present as follows: for each full grown wolf $15.00, for each pup $5.00; and by the Willow Bunch Association $10.00 a head irrespective of size.

Regulations for the issue and payment of Warrants for the Destruction of Wolves by Territorial Stock Associations.

Any association paying bounties under these regulations shall file for the approval of the Commissioner of Agriculture a schedule showing the scale upon which such bounties are to be paid.

The pelt (including the head) of each timber wolf upon which bounty is claimed must be produced intact to the inspector by the person claiming the bounty.

The issuer of the warrant shall use every means in his power to satisfy himself as to the sex of any wolf where bounty is claimed on bitch wolves and as to the age where bounty is claimed on adult wolves. Bounties on adult males are only to be paid when the issuer is satisfied that the animals are sufficiently developed to be destructive of themselves.

Upon the production of the pelt of any timber wolf to him, and on being satisfied that the animal killed was a timber wolf and not a coyote or other species of the wolf family, the issuer of the bounty warrant shall punch a portion out of each ear, so as to effectually prevent duplication, and may issue a warrant to the claimant for the amount of the bounty. The inspector shall number consecutively and keep a list of all warrants issued, and shall send a copy of such list to the secretary of his association periodically.

Upon the warrant being sent to the said secretary as a voucher, a payment of the amount of the bounty is to be made to the person named in the warrant, who will give his receipt therefor on the warrant.

On the last days of June, September and December in each year, the secretary of any association paying bounties under these regulations shall mail to the Department of Agriculture, at Regina, all such receipted warrants, accompanied by a statement in duplicate showing the number of each voucher, the amount of the same and in whose favour issued.

A payment will then be made out of any Legislative appropriation in that behalf (until exhausted) of the whole of the total amount so paid out in bounties upon wolves by such association for the period covered by the statement. These regulations shall remain in effect until otherwise specified.

XVII.—STATEMENT of Wolves Destroyed.

Association		Dogs	Bitches	Pups	Total
Western Stock Growers'	1899	75	43	336	454
	1900	73	54	264	391
	1901	68	68	238	374
	1902	51	40	274	365
	1903	19	22	289	330
Willow Bunch Stock Growers'	1899	1	....	....	1
	1900	2	1	....	3
	1901	2	....	....	2
	1902	1	....	....	1
	1903	....	1	....	1
The Territories	1899	76	43	336	455
	1900	75	55	264	394
	1901	70	68	238	376
	1902	52	40	274	366
	1903	19	23	289	331

From the above table it will be apparent that the number of wolves destroyed each year, notwithstanding the liberal bounties offered, is steadily decreasing. No complaints of unusual depredations by these animals have reached the department during the year.

III.—AGRICULTURAL EXPERIMENTS.

CO-OPERATIVE FIELD TRIALS.

The steps taken by the department preliminary to the inauguration of co-operative field trials to be undertaken by individual farmers throughout the Territories under the auspices of the various local agricultural societies and the direction and supervision of the department were outlined in the report for 1902. Early last spring further steps were taken to bring the scheme into practical operation. Each agricultural society had been asked to appoint at its annual meeting in December, 1902, an experimental committee to consist of three directors to make arrangements for the experiments in its locality. Twenty-three societies responded to this request. Early in the spring of 1903 the following memorandum was addressed to the president, secretary, and the individual members of the experiment committees of each agricultural society which had undertaken the trials.

As intimated in a letter read at the last general meeting of your agricultural society this department has decided to initiate during the present season a system of co-operative field trials. The intention is that the seed will be furnished free by the department and that your society should make arrangements with one or two of the most intelligent and painstaking farmers in your district to carry out the experiment or trials in accordance with the instructions sent them by the department. It is the intention of the Commissioner to submit an amendment to The Agricultural Societies Ordinance at the next session of the Legislative Assembly, which would authorise him to pay a stated grant for each experiment undertaken by an agricultural society. This would enable such societies to pay those who conduct the experiments sufficient to cover the actual cost of cultivation and seeding and thus make it worth their while to devote the necessary time and attention to this work.

The following are the experiments decided on for the present year. Kindly look over them carefully and have a meeting of your experiment committee at the earliest possible moment and choose what field trials you desire to take up and advise the department at once in order that the necessary seed may be sent. You may select from one to three experiments and in replying to this you should state the name, address and nearest railway station of the person undertaking each experiment, when seed and full instructions will be forwarded.

EXPERIMENTS.

Winter Wheat.—One acre plots.—The long haul to eastern shipping points, coupled with the fact that the tendency of the climate and soil of Alberta is to produce a soft wheat from the hard spring wheats so successfully grown in Eastern Assiniboia and Manitoba, makes it impracticable for Alberta farmers to compete in wheat growing with the easterly portions of the Territories. Fall wheat has, however, been introduced with some success. Attention has been called to the opening in the Orient for a cheap grade of white flour and that the Pacific Coast States to the south of us are successfully catering to that market, by growing a soft, heavy yielding wheat. The distance from Southern Alberta points to Vancouver is not much greater than the wheat districts of the State of Idaho from the seaboard. There is therefore a possibility of Alberta farmers being able to replace their oat crop by wheat if the softer wheats grown so successfully in the Pacific States can be grown there. With the object of testing this three varieties of winter wheats have been secured in order to test their suitability to the soil and climate of Alberta.

Malting Barleys.—One acre plots.—The farmers of the State of Montana area successfully growing a barley for malting purposes, and exporting it to Buffalo,

New York and even to Germany. It is grown on a rich, black soil and under irrigation. There is a growing market for malting barley. That grown in Montana is a two-rowed variety and a supply of it has been obtained to test it in Alberta. A six-rowed Canadian variety has also been secured and both will be tested with and without irrigation.

Early Oats.—One acre plots.—As oats have become a staple crop in Northern Alberta and Saskatchewan it is highly important that as early a ripening variety as possible be secured so that the crop may be safely harvested without frost. With this in view two early ripening varieties have been selected for trial. They have not given quite as heavy a yield as some of the late varieties but they are from eight to ten days earlier in ripening. This test is particularly suitable for Northern Alberta and Saskatchewan.

Peas.—One-tenth acre plot.—This is simply a demonstration of how successfully this valuable grain for feeding purposes can be grown. It is suitable for all parts of the country.

Rape.—One-tenth acre plot.—This is intended to demonstrate the great value of rape as pasture for hogs, sheep or cattle. While applicable to all parts of the West, this experiment is particularly adapted to the grain growing portions of Assiniboia. If the raising of hogs is to be successful pasture of some kind must be provided and rape furnishes an abundant and easily grown supply.

Corn.—One-tenth acre plot.—Abundance of cheap corn lies at the base of successful feeding operations. One variety of corn obtained from sixty miles south of the boundary will be used to test the possibilities of growing a variety of corn that will ripen here. Another variety will be used to show the large amount of fodder that can be grown upon a small area, either for summer feeding or to be cured for winter use. This experiment is particularly suitable for South-Eastern Assiniboia.

Clover.—One-quarter acre plot.—A demonstration plot to see if clovers will grow and withstand the winter.

Grasses.—One-half acre plot.—A demonstration of the value of different grasses grown side by side.

Owing to difficulties in the way of securing seed of the desired varieties the experiments with malting barleys and oats had to be cancelled. Seeds for the other experiments were supplied by the department. Seed for the fall wheat tests was secured through the courtesy of Professor H. P. French, Director of the Experiment Station of the University of Idaho, Moscow, and The Canadian Pacific Railway Company manifested their interest in the work by delivering it free of transportation charges at Calgary, from which point the seed was distributed to the experimenters in Western Alberta. The varieties secured were Palouse Blue Stem, Little Club, and Palouse Red Chaff, it being considered that these wheats grown in the Walla Walla Valley were produced under conditions which would render their cultivation in the western part of the Territories more likely to be successful than varieties grown where climatic and other conditions were more widely dissimilar. On a similar principle the seed for the corn trials was secured from corn raised under conditions proximate to those which are found in the Territories. A supply of seed ripened at Velva, a point in North Dakota less than one hundred miles south of the international boundary, was secured through the efforts of Mr. W. R. MacInnes, at that time Assistant Freight Traffic Manager of The Canadian Pacific Railway Company, Winnipeg. A sample of this corn was sent to the Central Experiment Farm for identification and was stated to resemble the variety known as White Cap Yellow Dent. As there was some of this corn left over after supplying those who had undertaken tests under the department's scheme, small quantities were sent to a number of prominent farmers throughout the country with the request that they would communicate the result of their trials of it to the department. It was early realised that in order to secure the best results from a system of co-operative field trials such as above outlined some supervision and

inspection of the experimental plots by a qualified official of the department was essential. Accordingly Mr. George Harcourt, B.S.A., who had been appointed to the department's technical staff as Superintendent of Fairs and Institutes, was placed in charge of this work. Mr. Harcourt visited a number of experimental plots, but, owing to the many duties imposed on him in the above capacity, was unable to do as much as he would have liked in this connection. I submit herewith his report:

Report on Experimental Plots, by Geo. Harcourt, B.S.A.

The response to the department's circular letter outlining the character of the experiments to be conducted was much better than expected —twenty-two societies agreeing to undertake experimental work and make reports thereon. The congestion of the freight traffic on the Canadian Pacific Railway in the early spring made it unwise to forward bulky seeds by freight and therefore experiments with malting barleys and early ripening oats were abandoned. The other seeds were all sent out in good time with full instructions as to how they were to be sown, together with blank forms for keeping a record of all facts in connection with each experiment. Owing to this work being something altogether new I thought it advisable to visit as many of the experimenters as possible and to see how fully the instructions sent out from the department were being carried out, and to offer any suggestions that might occur in connection therewith Combining this with other work I was able to personally inspect the great majority of the plots in Assiniboia and Saskatchewan but was unable to see any in Alberta. The experimental committees were asked to have their experiments located near main thoroughfares so that they might be seen by the greatest number of people possible. In some cases this was done but in too many cases the committee found it difficult to get reliable men, whose farms were favourably situated for showing the experiments to the public, to undertake the work. In quite a few cases plots were placed in more or less out of the way places where few saw them and thus much of their educational value was lost. Nevertheless some of these experiments were the most successfully conducted of the whole series. In a few cases the ground selected for the plot was so foul with weed seeds that the experiment proved a failure. A few experimenters took but little interest in the experiments, the work being performed in a perfunctory manner and referred to as "the Government tests" as though any kind of treatment would do, and the individual had no interest in them. I am pleased, however, to report that in most cases everyone seemed interested in these co-operative experiments as it was generally believed that once successfully established and conducted by every agricultural society there would soon be a valuable fund of information available for every district of the Territories. As this work becomes better known there will be a greater number of farmers willing to undertake it.

DEMONSTRATION PLOTS WITH DWARF ESSEX RAPE.

The instructions asked experimenters to sow one-tenth of an acre in rows 28 inches apart at the rate of 2½ lbs. per acre and two rows were to be let grow till fall then cut and weighed to get the yield. Some of the rape was to be cut and fed to various classes of stock to

ascertain how they would eat it. Also to show how quickly it would shoot up again for a second and possibly a third growth. At the time of my visit at several places I had some of it fed to pigs that had never seen rape and they took to it readily, some eating it greedily. In several cases this experiment was a failure because the gophers ate it off as fast as it showed through the ground. The reason for failure was not discovered until too late to remedy. One experimenter saved his plot in time, but the gophers ate quite a strip of it when it was larger. Seed for this experiment was sent to 24 experimenters, but only 17 sent in reports that could be used. Some of these failed to weigh their plots, but their names have been included. In two cases the late frost cut off the young rape just as it came up. The larvæ of the Diamond-backed moth (*Plutella cruciferarum*) did considerable damage to the rape plant in a number of cases. The results of this experiment are shown below.

DEMONSTRATION Plots with Dwarf Essex Rape.

Agricultural Society	Experimenter	Date of sowing	Date of cutting	Average height	Yield per acre Tons	Yield per acre Lbs	Kind of animals to which fed	How relished by each	Nature of soil	Previous cropping
Saltcoats	John Hughes	June 25	Fed from Aug. to Nov.	24 in.	.....	....	Stabled cattle, pigs and sheep	Well liked	Black loam	Oats
Moosomin	A. P. Crisp	May 28	July 1	1 ft. to 3½ ft.	42	450	Hogs and cattle	Eaten greedily	Black loam	Roots
Wapella	S. Mitchell	June 6	Sept. 10	40 in.	21	221	Hogs and calves	Eaten greedliy	Clay loam	Potatoes
.....	A. T. Bartleman.	June 12	Late in Sept.	24 in.	13	867	Swine	Well liked	Black sandy loam	Barley
Pheasant Forks	J. A. Smith	May 23	Aug. 31 & Sept. 28	.....	.....	.....	Swine	Very good	Light loam	Breaking
Moose Jaw	Fred W. Green	June 3	Oct. 30	30 in.	.. ..		Cattle, horses and swine	Very much; not very well	Clay loam	Potatoes
Moose Mountain	Hugh Kippan	June 2	....	26 in.	....		Cattle	Preferred to oats	Sandy loam	Oats and barley
....	G. Findlater	May 20	Sept. —	20 in.	.....		Swine	Eaten greedily	Clay loam	Wheat
Gainsboro	O. S. Knisely	June 10	Sept. 11	32 in.	40	655	Swine and calves; cows	Eaten greedily; eat it but not eagerly	Black	Wheat
S.E. Assiniboia	John Young	May 30	End June till Oct.	18 in.	Ruined by snowstorm		Swine and calves	Very well	Sandy loam	Summer fallow
Carrot River	W. E. Traill	May 29	Aug. 1 & Sept. 1	....	30	00	Swine	Eagerly relished	Heavy black loam	Potatoes
Fort Sask	Thos. J. Stacey	May 28	Final cut Nov. 7	20 in.	Ruined by frost		Horses, cattle, hens, and swine	Fairly well	Rich black loam	Potatoes and turnips
Olds	H. W. Hammer	May 1	July 1	20 in.	25	470	Swine. calves and chickens	Well liked	Dark loam	Rotted sod
.....	J. P. Strong	June 10	Aug. 20	20 in.	21	275	Swine	Greedily eaten	Black loam	Potatoes
....	E. Bame	May 12	Sept. 10	30 in.	35	350	Swine, cows and poultry	Very fond of it	Black sandy loam	Potatoes
Lacombe	H. F. Flewelling	May 30	Aug. 1	18 in.	.....		Swine and bulls	Well liked	Sandy loam	Wheat
....	F. B. Watson	May 30	Sept. 1	24 in.	Damaged by flies		Cows, hogs and hens	Well liked	Black loam	Oats

A cursory glance at the foregoing table shows that the rape in some of the plots made most excellent growth. The yields are remarkably large, showing that rape is well adapted to our soil and that any farmer can obtain an enormous amount of fodder from a small area. The seed required is very small—two to three pounds per acre. This is not the only point worthy of consideration. Everyone knows the value of clover for hog pasture, and that as yet clover growing on the prairie is an unsolved problem. Hogs and clover are two things that work well together, and if clover could be grown m re farmers would keep hogs. It will therefore be of interest to know that the composition of the rape leaf is almost identical with that of clover. If we cannot grow clover we can at least grow a very good substitute—not only grow it but grow a very heavy yield of it. In every case hogs ate the rape readily, if not greedily. Here, then, we have a good substitute for clover for summer pasture.

The growth made by the experimental plots of rape has led quite a few farmers to sow a considerable area for hog pasture another year. While visiting experimental plots at Moosomin I found three farmers south of Fleming who had quite an acreage sown to rape, one man having as much as eight acres. It was being pastured off by hogs and proving fairly successful. One man had made the mistake of sowing it broadcast with the result that the growth was not strong enough to afford the pasturage expected, and when eaten down the second growth was not as rapid and strong as it would have been had the rape been sown in drills and properly cultivated. Having occasion to fence a plot of turnips, which was next to the rape, and intended for winter feed, a little of the rape was included and cultivated in rows along with the turnips. The growth resulting from this cultivation was such that it convinced the man that the proper way to grow rape is in rows—and that it will pay to cultivate well. Mr. H. F. Flewelling, of Lacombe, reports sowing 1¼ acres of rape on June 6th. When 18 inches high, on August 15, he turned in 70 pigs on this rape and those pigs pastured there until the middle of October. By leaving open every fourth spout of the ordinary force feed grain drill and closing the others rape can be sown on the level very successfully. It will be necessary to close the feed as tightly as possible but not so tight as to crush the seed.

Having demonstrated the possibility of growing rape, an experiment in growing an acre of it, and ascertaining the number of hogs it will carry, is being tried by five experimenters during 1904.

CORN.

The seed corn obtained from Velva, N.D., proved to have only about 50 per cent. germinating power, hence a double quantity was sent out as seed, but in several cases the actual germination in the field was so unsatisfactory that the plot was a failure. In no case was the germination what it should have been. It was hoped that some stalks of this corn would ripen and thus furnish home-grown seed for another year. None of it was far enough advanced for this. Had the frost kept off a little longer a few samples would have been far enough forward for the purpose. The corn plant has shown itself readily adaptable to change of soil and climate and has steadily worked its way north into the States just south of the boundary line, and by continued experiments it

is confidently hoped that it will not be long before a variety of corn will be found that will ripen in this climate. While it may not grow so tall as under more favourable conditions it has been shown that it will have greater feeding value in that it contains more nitrogenous and less carbonaceous matter.

The Yellow Dent was tested with the object of securing seeds, while the North Dakota Flint was used with the idea of demonstrating the amount of fodder that could be grown. Seed of both kinds was sent to 16 experimenters and the following are the summaries of the returns:

DEMONSTRATION Plots with Corn.—Yellow Dent.

Agricultural society	Experimenter	Date of sowing	Date of cutting	Average height	Condition when cut	Yield per acre Tons Lbs	Proportion ears per stalk	Nature of soil	Previous cropping
Saltcoats	F. Kirkham	May 27	Sept. 4	6½ ft.	Badly frozen.			Black loam	Wheat
N.E. Assiniboia	L. Kromrey	May 25	Sept. 20	5 ft.	Frozen			Black loam	Potatoes
Wapella	W. Chase	June 5	Sept. 9	6 ft.	Not ripe enough for seed		2 to 4	Black loam	Wheat
Moose Mountain	Hugh Kippan	June 1		6 ft.	Destroyed by snow storm, Sept. 12		1	Sandy loam	Wheat
Gainsboro	O. S. Knisely	May 26	Sept. 4	6⅔ ft.	Late milk	13 970	3 to 4	Black loam	Backsetting
Lorne	N. Acorn	June 23	Oct. 23	5 ft.	Ears well formed but soft		3	Sandy loam	Potatoes

DEMONSTRATION Plots with Corn—North Dakota White Flint.

Agricultural society	Experimenter	Date of sowing	Date of cutting	Average height	Condition when cut	Yield per acre Tons Lbs.	Proportion ears per stalk	Nature of soil	Previous cropping
Saltcoats	F. Kirkham	May 27.	Sept. 4.	6 ft.	Badly frozen.			Black loam.	Wheat
N. E. Assiniboia	L. Kromrey	May 25.	Sept. 20	5 ft.	Frozen			Black loam.	Potatoes
Wapella	W. Chase	June 5.	Sept. 9.	6 ft.	Not ripe enough for seed		2 to 4	Black loam.	Wheat
Wolseley	A. B. Bompas	May 16.	Sept. 14	7 ft.	Slightly cut by frost	25 465	1 to 3	Sandy loam.	Wheat
Pheasant Forks	J. A. Smith.	May 21.			Damaged by frost June 9			light loam	
Moose Jaw	F. W. Green.	May 15.	Sept. 17	6 ft.	Early milk	14 520	2	Clay loam	Potatoes
Moose Mountain	G. Findlater	May 20.		6 ft.	Tasselling to late milk			Clay	Wheat
Gainsboro	O. S. Knisely	May 26.	Sept. 4.	5 ft. 10 in.	Early milk	17 760	2 to 3	Black loam.	Backsetting
S. E. Assiniboia	Alf. McCarty	May 27.	Sept. 6.	7 ft.	Ears just formed but caught by frost			Black clay loam	Wheat
Lorne	N. Acorn	June 23	Oct. 5.	6 ft.	Ears formed	19 398	3	Sandy loam.	Potatoes

Although none of the corn ripened the growth made amply demonstrated the point which the department wished to emphasise, viz.: the large amount of fodder that it will furnish either for green feed in the fall or as winter feed when cured. A variety of corn growing from five to seven feet in height with a large number of ears attaining the roasting stage before the first heavy frosts come is one that will give any farmer a large amount of fodder of high feeding value. Experience has shown that it is better to have a smaller growing variety that will almost ripen than an exceedingly strong growing one that will not do much more than tassel out. The amount of fodder that can be grown on a small area as demonstrated by these plots will lead quite a few farmers to try a plot for themselves. One man who held corn to be a good fodder crop was more than surprised with the result of his experiment and is now a strong convert to the plan of growing an acre or more of corn every year. The yield obtained clearly demonstrates that South-Eastern Assiniboia can grow corn quite successfully for fodder purposes. It is also apparent that corn should be cut before the fifteenth of September if not before the tenth in order to escape frost. Mr. Acorn, of Prince Albert, was fortunate enough not to have his corn touched with frost until quite late in October but this cannot be depended upon every year. Comments made by experimenters were strongly in favour of growing corn.

PEAS.

The object of this experiment was to demonstrate how well peas would grow. On account of a difficulty in harvesting this crop has been somewhat neglected, but as more stock is fed peas will be found a most valuable addition to the foods already at the feeder's disposal. One objection raised in many places to growing peas is the enormous growth of vine that is made. To overcome this a short strawed variety was selected—the mummy. The growth made was not excessive; on the contrary, with few exceptions, it was rather short. The cold wet season was not favourable to a heavy yield. Seed was sent to eleven experimenters and returns were sent in by ten of them, as follows:

DEMONSTRATION Plots with Peas—Mummy.

Agricultural society	Experimenter	Date of sowing	Date of maturity	Strength of straw	Yield per acre Bus. Lbs.	Nature of soil	Previous cropping
N.E. Assiniboia	Johan Grimsky	May 25	Frost came before ripe	Weak.	Not threshed	Black sandy loam	Wheat
Wolseley	W. P. Osler	May 6	September 10	Weak.	18 20	Clay loam	Potatoes
Pheasant Forks	R. Marsden	May 25	September 10	Strong.	26 6	Heavy loam	Barley
Moose Jaw	J. G. Beesley	May 5	September 1	Strong.	19 30	Heavy loam	
Gainsboro	O. S. Knisely	May 26	September 1	Fair	34 00	Clay loam	Backsetting
Moose Mountain	G. Findlater	May 20	September 10	Weak.	13 20 (damaged by snow)	Clay loam	Summer fallow
Lorne	N. Acorn	May 23	September 20	Weak.	Not threshed	Sandy loam	Potatoes
Battle River	R. H. Speers	May 16	September 17	Strong.	21 20	Clay loam	Summer fallow
Lacombe	J. J. Gregory	April 30	Killed by frost August 23	Strong.		Black loam	Potatoes
Olds	E. Bame	May 12	September 24, frozen	Heavy	6 40	Black sandy loam	Potatoes

The yields while not large show that profitable crops can be grown. It is only fair to Mr. Baine's experiment to state that a hail storm destroyed a splendid growth on the 13th of July and the second growth was caught by frost before fully ripe. While there are obstacles in the way of growing a successful crop of peas yet it is one that should not be overlooked. The ravages of the pea weevil in the eastern portion of Canada has caused a serious decline in the acreage devoted to peas. As a result of this there will soon be as good a market for peas as there is for wheat and one which prairie farmers might cultivate to their advantage. Besides this there is the further fact that peas would work well in a crop rotation in tending to restore to the soil the nitrogen carried off by continuous wheat growing.

DEMONSTRATION PLOTS IN GROWING CLOVERS.

The prevalence and hardiness of white clover throughout the country leads one to hope that some day we will be able to grow the larger and more valuable varieties for field purposes. Experiments at both the experimental farms at Brandon and Indian Head have demonstrated that by sowing without a nurse crop in the early spring the plants become so firmly rooted as to be able to withstand the winter frosts. Preliminary experiments were started with alsike and common red clover sown without a nurse crop to test their ability to stand the winters in various localities and to encourage farmers to try clover growing. The alsike was sown at the rate of 10 lbs. and the red at the rate of 16 lbs. per acre in quarter acre plots in the early spring. From the reports of these plots received in the fall the stand secured was good, the growth having been most satisfactory to every experimenter. At Prince Albert, Mr. N. Acorn did not cut his plots during the summer and late in September, when I visited his place, he had a beautiful stand of both kinds. The alsike measured over 2 feet in height and a plot 10 feet square, when cut, yielded at the rate of 9 tons per acre of green feed. The red variety was 2 feet 2 inches high and the same sized plot cut and weighed gave a green weight of 9 tons 300 lbs. With other experimenters the growth was from five to twenty inches. The instructions requested the experimenters to keep down the growth by running the mower over the plots occasionally, and it will be interesting to note whether the plots so treated or those allowed to make a great growth will come through the winter the best. Seed for the experiment was sent to the following gentlemen: John A. Snell, Yorkton; L. Kromrey, Churchbridge; F. B. Watson, Lacombe; A. S. Rosenroll, M.L.A., Wetaskiwin; N. Acorn, Prince Albert; J. P. Strong and E. Bame, Olds; John Hughes, Saltcoats; Rev. J. G. C. White, Lethbridge; J. Buckham and H. A. Malcolm, Innisfail; C. W. Peterson, Calgary; A. J. Prongua, Battleford, and R. G. Berry, Fort Saskatchewan. A full report of how these clovers came through the winter and the growth made during the following year cannot, of course, be given this year.

DEMONSTRATION PLOTS IN GROWING GRASSES SIDE BY SIDE.

The object sought in this experiment was a demonstration one, showing the behaviour of timothy, western rye and awnless brome grasses (*Bromus inermis*), when sown side by side under uniform conditions. Many farmers have seen a plot of either one or more of these

grasses, but few have seen the three of them growing side by side. Such a test will afford many lessons for observing farmers. Their value may be compared for pasture, for hay and pasture afterwards, and for their ability to bind the soil together by means of their roots and thus prevent drifting. The instructions were to sow 5 lbs. of each kind of grass seed on a plot one-half of an acre in area, and without a nurse crop. If weeds appeared they were to be kept cut and the grass to lie as a mulch. If a vigorous growth was made a small piece of the plot was to be cut and weighed so that an estimate could be made of the yield. Half the plot was to be mulched for winter protection. Reports of the growth made by the time winter came on shows that a good stand was very generally obtained, and in one case the grasses made a growth of 2 feet. This experiment is not yet completed and fuller particulars will be obtained the following year of the way they have passed through the winter, and of their yield. The aftergrowth will be noted, and later the effect of the root system on the soil. Seed was sent to the following gentlemen: H. F. Flewelling, Lacombe; Robt. Marsden, Pheasant Forks; Thos. Courtney, Prince Albert; Geo. Melton, Carnduff; Johan Grimsky, Churchbridge; H. W. Hammer, Olds; F. Kirkham, Saltcoats; Joseph Einarsson, Logberg; W. H. Fairfield, Lethbridge; J. Buckham, Innisfail, and C. W. Peterson, Calgary.

EXPERIMENTS WITH WINTER WHEATS.

Extended reference was made in last year's report to the advisability of encouraging the production of winter wheat in Alberta. The facts presented there do not need to be repeated and are just as pertinent now as then, if not more so. That Alberta farmers are interested in the problem of growing winter wheat is best evidenced by the fact that the crop returns show that 82,420 bushels of it were grown in Alberta last season. The winter wheats obtained from Idaho consisted of 20 bushels each of Blue Stem and Red Chaff and 30 bushels of Little Club. These wheats were distributed from Calgary to the following gentlemen: Ira Russell, J. J. Gregory, Lacombe; H. A. Malcolm, John Robinson, E. C. Wetham, Fred McLeod, H. J. Scott, Jas. N. McLean, E. C. Howard, Innisfail; Enoch Groves, L. A. McCarter, Chas. H. Olin, Wetaskiwin; J. P. Strong, H. W. Hammer, Olds; F. J. Gough, J. K. Rowles, W. R. Smith, J. J. McDonald, Okotoks; Robt. Tiffin, Lethbridge; C. Kettles, Pincher Creek; C. W. Peterson, Calgary.

As will be readily seen these wheats went only to points in Alberta. Several applications were made from Assiniboia, but all were refused on the ground that the best of spring wheat could be grown while fall wheat would only be an experiment. In Alberta growing fall wheat was past an experimental stage, it now being a question of which is the best variety to grow. The majority of the above experimenters received seed for an acre of each variety of wheat. The instructions asked the experimenters to sow as early after the 15th of July as possible. From reports received of the condition of the wheat when winter set in it appears that the germination and resultant growth was most satisfactory. In a number of cases the growth was so strong that it had to be pastured off. On the whole the reports were very favourable. During the early winter a few reports forwarded stated that the frosts had partially killed the wheat, and in others it was stated that the experimental plots

were dead to the ground, while Turkey Red, Dawson's Golden Chaff and other varieties were still green. While attending institute meetings along the Calgary and Edmonton line I found, in conversation with farmers, that settlers from the States of Idaho and Washington did not consider the varieties chosen by the department as true winter wheats, as in their own States these varieties were classed as spring wheats that would do as winter wheats. They did not expect them to withstand our severe winters. Time only will tell the result of the test, but a few reports received this spring stated that the wheat on the plots was dead, while other varieties were living and gave promise of a good stand.

EXPERIMENTAL WORK FOR 1904.

Summing up the results of the co-operative experiments leads to the conclusion that a most valuable work has been begun and though the results may not be appreciated at present, if continued for a few years there will soon be gathered a fund of useful information. At present many farmers do not see the drift of these experiments, but as the work continues its value will be more and more appreciated as results become available; experimenters who now perform their work in a perfunctory manner will become eager experimenters as the work attains an ever widening influence.

Below will be found a list of the experiments to be conducted during 1904. Further experiments will be continued with winter wheats and each year's work should put us in a better position to know what will prove most successful in our climate. Negotiations had been begun with the Russian Consul at Montreal for a supply of Turkestan alfalfa and through his kind offices a small quantity of seed was secured, but it arrived too late in the season to be used and was held over for 1904. This variety of alfalfa is considered the hardiest known and the tests with it will be watched with interest and especially so as a plot of it has stood two winters at the Experiment Station at Calgary. At the Fargo Experiment Station alfalfa seed grown on the high lands of Utah has proved very hardy. Accordingly a quantity of Utah grown seed was obtained and will be tested with the Turkestan. The following is a list of the experiments as outlined for 1904:

Winter Wheat.—One acre plots.—(For Alberta only)—Over 82,000 bushels of winter wheat were grown in Alberta last year, and as it is very desirable that not only the adaptability of the soil and climate to grow wheat be ascertained, but also that the best varieties to grow be determined, the experiments with new varieties of winter wheat will therefore be continued. The experiment as a whole will likely consist of at least two and possibly three varieties.

Rape.—One-tenth acre plots.—This is intended to demonstrate the great value of rape as pasture for hogs, sheep and cattle. While applicable to all parts of the West, this experiment is particularly adapted to the grain growing portions of Assiniboia.

Pasturing Hogs on Rape.—One acre plot.—In some districts the success attending the demonstration plot of rape grown last year made many farmers decide to sow a considerable area with rape this year. Its value as hog pasture is appreciated by all and if experiments could be conducted to ascertain the number of pounds of gain that could be made from an acre of rape and the cost of it, it would be valuable information to everybody. The department would like very much to have some of the societies try such an experiment. If a member of the society, with a sufficient number of hogs to conduct this experiment, would try it, he would confer lasting benefit on himself and neighbours. If such a man cannot be found, several neighbours or members of the society could tag a few of their hogs and put them together on the rape. In any case all hogs would have to be weighed before they were turned on the rape and

again when the experiment was completed. If any grain was fed, a record of the amount should be kept. Such an experiment, properly conducted, would be of great value to the whole country. The department will supply seed for this experiment, but, unfortunately, can only pay the same rate as for other experiments, viz., $5.00.

Corn.—One-tenth acre plots.—Some of the co-operative experiments with corn last year proved very successful, and, although none of it ripened, yet the amount of fodder that was grown demonstrated the great usefulness of this plant. Two varieties will again be tested this year.

Clovers.—One-tenth acre plot.—A demonstration plot to see if clovers will grow and withstand the winter.

Grasses.—One-half acre plot.—A demonstration of the value of different grasses grown side by side.

Alfalfa.—One-quarter acre plots.—Demonstration plots to ascertain if this most valuable of all clovers can be successfully grown. Three varieties will be tested side by side: (1) The Common Alfalfa, grown all over; (2) The Turkestan Alfalfa, a hardy variety, imported from Russia; and (3) The Utah Alfalfa, grown on the high lands of that state and said to be hardier than the Turkestan. As the success of the alfalfa plant depends very largely on having the proper bacteria in the soil, the department has made arrangements to supply experimenters with material for inoculating one-half of each plot. This will demonstrate whether alfalfa will grow on our prairie soils and stand the winter frosts.

GEO. HARCOURT.

CALGARY EXPERIMENT STATION.

The following is the report of Mr. P. Turner Bone, C.E., manager of the station:

I have the honour to submit the following report of the work on the Calgary Experiment Station for the year 1903.

The winter was on the whole comparatively free from extreme cold weather, with the exception of the month of March, which proved the most wintry of any month in regard to low temperature and snowfall. From the 7th to the 19th the thermometer registered below zero, and during the month a fall of nine and a half inches of snow was recorded. Seeding was started about the middle of April and the weather conditions from that time until well on in June gave promise of better returns from agriculture than had been obtained in the previous year. But from the middle of June until the end of September the weather was, if anything, worse than that experienced in 1902. During July, August and September there were 34 wet days with a total rainfall of about 14½ inches. August and September, the months of haying and harvesting, were wetter than they were in that year, and consequently the ripening was delayed and the greater part of the crops was immature when cut. Seven degrees of frost on the 14th of September greatly damaged the crops at the station and rendered any comparison of grain yields useless.

The experiments on grain which have been conducted at the station have been undertaken with a view to determine the earliest varieties suited to a district where, owing to the shortness of the growing and ripening season, earliness is an essential quality. Varieties of wheat, oats and barley were selected for this purpose when the station was first established.

The varieties of wheat were Red Fyfe, Preston and Dawn. The results of the experiments with these indicate that only the Dawn variety need be considered as at all fitted to form part in the agriculture

of the district, and even it is an uncertain quantity. It matured two years out of the four during which the experiments were conducted. The others failed altogether.

For three years fall wheat has been experimented on. The first year it was tried it turned out well. The next year it was entirely winter killed. Last year it came through the winter and promised to be a good crop but owing to the extreme wet weather it failed, in common with the other grain crops, to mature.

The varieties of barley tried were French Chevalier and Canadian Thorpe, both Canadian varieties, and Chevalier barley from Montana. There appears to be little difference in the two Canadian varieties but both are earlier than the Montana variety. The last two seasons have proved altogether too wet for the successful raising of barley at the station and no definite information regarding it has been obtained.

The varieties of oats experimented with were Banner, Improved Ligowo, Victoria Prize and White Russian, a variety obtained from Montana. Improved Ligowo and Victoria Prize have proved to be considerably earlier than the other two and they are varieties which seem well adapted to the district. In every year except the last good crops of ripe grain were obtained from them. The Victoria Prize, although a few days later than the Improved Ligowo, is a heavier yielder and on that account I place it first in order of merit.

Speltz was tried but it proved too late in maturing. Rape gave excellent results in the two seasons when it was tried and it is undoubtedly well adapted to the district

Turkestan alfalfa sowed in 1902 came through the winter without hurt and a fair cutting was obtained. As, however, alfalfa does not yield its best crops until at least two years after sowing it cannot be completely reported on now.

The grasses have proved to be the most profitable of all the crops tried. Timothy and Bromus can be safely depended on to give satisfactory yields. Red Top although it has only had two years' trial gives promise of being a good permanent meadow grass. It this year maintained the position it held in 1902 giving a yield of about three tons per acre. Meadow Fescue was however disappointing, the yield the second year being not over half a ton.

The varieties of potatoes were Brownell's Winner, Earliest of All, Sharpe's Seedling, American Beauty and American Wonder. The season was against the growing of good potatoes but the experiments place Brownell's Winner and American Wonder considerably ahead of the others in point of yield.

Regarding the irrigation experiments for which the station was primarily established, nothing of any value has been obtained. The wet seasons entirely prevented the carrying out of the few experiments that were attempted.

Sweet grass has been practically eradicated by the persistent ploughing under in spring when in flower and seeding immediately with a heavy seeding of grain. This grain, however, being late can only be used as green feed. But this in a stock country is no drawback as it may in that state prove as valuable as a ripened crop.

TABLE of Monthly Summaries of Meteorological Returns.

Month	Max. temp.	Min. temp.	Avg. max.	Avg. min.	Mean	Date max.	Date min.	Rain	Snow	Total
January	51·9	—16	32·8	9·7	21·3	5th	27th	.....	1·25	0·12
February	48·9	—23·2	33·2	8·2	20·7	21st	13th	.....	5·5	0·55
March	49·9	—27·7	27·5	3·4	15·4	30th	13th	.....	9·5	0·95
April	69·5	14	49·8	24·0	36·9	25th	27th	0·07	3·0	0·37
May	78·4	21	56·4	31·4	43·9	30th	14th	1·37	10·0	2·37
June	78·4	32 6	70·0	42·9	56·4	17th	28th	2·12	....	2·12
July	79·9	35	67·9	41·7	54·8	21st	2nd	4·59	...	4·59
August	79·9	32	65·7	41·6	53·7	19th	17th	6·67	.....	6·67
September	75·9	22·6	58·6	33·0	45·8	28th	29th	2·77	3·5	3·12
October	77·9	12	58·8	26·7	42·7	23rd	2nd	...	0·10	0·01
November	64·9	—22·5	33·8	8·2	21·0	6th	16th	....	4·2	0·42
December	56·9	—20·5	37·6	12·4	25·0	30th	11th	.....	.....	.....
							Totals	17·59	37·05	21·29

P. TURNER BONE,
Manager.

The Calgary Experiment Station was instituted by the department for the purpose of general agricultural research in what has been called the semi-arid district of the Territories and more particularly to test the value of irrigation when applied to growing grain and fodder crops. A farm suitable for the purpose and situated within a few miles of the City of Calgary was leased from the Calgary Irrigation Company for the space of five years, and Mr. P. Turner Bone, C.E., the manager of that company, was selected by the department to take charge of the experimental work, for which full instructions were furnished by the department at the beginning of each season. Unfortunately for the success of the scheme almost from the outset the weather militated against it, heavy precipitation during the growing seasons precluding the possibility of irrigation being applied. Such results as have been attained have been published from year to year in the department's reports. The lease of the farm expired on the 31st December last, and in view of the fact that much valuable experimental work is now being carried on by The Canadian North-West Irrigation Company in the vicinity of Lethbridge, and that no doubt work of a similar nature will be undertaken by The Canadian Pacific Railway Company in connection with its scheme for the irrigation of an immense section of country between Calgary and Medicine Hat, it was not considered necessary to renew the arrangement. The station while it has to a large extent, owing to the circumstances above mentioned, come short of the ends for which it was instituted, has at least demonstrated the necessity and desirability of systematic agricultural experimental work in Western Alberta. It is obvious that the valuable work done at the Indian Head Experimental Farm is not applicable to any extent to conditions as they exist in the extreme Western portion of the Territories, where, owing to the peculiar meteorological phenomena induced by the proximity of the Rocky Mountains as well as the extreme elevation (between 1,500 and 1,600 feet higher than Indian Head), agriculture in its various branches is conducted under entirely different conditions from those prevailing in Eastern Assiniboia.

The thanks of the department are due to Mr. P. Turner Bone, the late manager of the station, for his persevering efforts to carry out the department's instructions in the face of many unforeseen difficulties.

IV.—AGRICULTURAL EDUCATIONAL WORK.

Mr. George Harcourt, B.S.A., was appointed Superintendent of Fairs and Institutes during the year and placed in charge of this branch of the department's work. His report is appended herewith:

Report of the Superintendent of Fairs and Institutes.

ADMINISTRATION.

In other portions of Canada the work of the Farmers' Institute is distinct from that of the Agricultural Society, but in the Territories they have been united under one set of officers working under *The Agricultural Societies Ordinance.* So far the plan has worked well. At the March session of the Assembly the Ordinance was consolidated and revised and several important changes made.

Probably the most important change made was that with reference to the payment of the grant for exhibition purposes. Under the old Ordinance this grant, which comes from the Federal Government, was divided *pro rata* among those societies that had over $350.00 available for show purposes. The working out of this plan of distribution has not been altogether satisfactory. It has not helped to encourage the societies that were able to participate in the grant, neither has it been the means of discouraging those societies that were not able to earn one. Accordingly a new plan was adopted whereby a *pro rata* grant was made to each society that had actually paid out over $250.00 in prize money. This is a radical change. Instead of being a policy of restriction the door is now practically thrown wide open. The limit is very low and almost every society should be able to earn a grant. In fact the annual returns of the societies show that nearly double the number will be entitled to receive exhibition grants this year. The first distribution under the new Ordinance will be paid in July and will be based on the amount of prize money actually paid out during the past year.

The membership grant is paid according to the number of members —a dollar being given for every dollar paid in fees up to $150.00, this being the maximum that any society can draw. Besides having a minimum membership of fifty, each society must hold at least two institute meetings before it is entitled to a grant. The following societies failed to hold the requisite number of meetings in 1902 and consequently were not entitled to their membership grant: Central Saskatchewan, Innisfail, S.E. Assiniboia and N.E. Assiniboia. But the Commissioner of Agriculture, believing that as these societies were otherwise doing good work and that they might be handicapped if deprived of a grant altogether, brought the matter up at the October session of the Legislative Assembly and a special vote was passed giving them the regular membership grant. It is not the intention to repeat this action, however, and all societies have been notified to that effect.

The new Ordinance also makes provision for a payment of $5.00 each for three co-operative experimental plots to each society conducting experiments and making the returns asked for by the department therewith. As this work increases payment for a larger number of experiments may have to be provided for, unless farmers can be so interested in this work that they will be anxious to conduct experiments if supplied with seed and instructions.

Provision is also made for a somewhat wider sphere of work for the societies, and a careful perusal of the objects for which a society may be formed gives an idea of the wide scope for useful work. They are as follows:

1. By holding meetings for the delivery of lectures and for the discussion of subjects connected with the theory and practice of any of the said industries;
2. By promoting the circulation of agricultural, pastoral, horticultural, arboricultural and mechanical periodicals, and by the formation and maintenance of a reference library on such subjects for the use of its members;
3. By importing and otherwise procuring seeds, plants and animals of new or valuable kinds;
4. By holding exhibitions as hereinafter provided at which prizes may be awarded for—
   (*a*) Excellence in the raising or introduction of live stock;
   (*b*) The invention or improvement of agricultural machines or implements;
   (*c*) The production of grains and all kinds of vegetables, plants, flowers and fruits, home manufactures and works of art; and generally for excellence in any agricultural production or operation;
5. By offering prizes for essays on subjects relating to agriculture, including the prevention of prairie fires and the eradication of noxious weeds;
6. By taking action to eradicate poisonous and noxious weeds and to exterminate such animals as are found to injure or impede agriculture;
7. By carrying on experiments in the growing of crops, the feeding of stock or any other branch of agriculture or by testing any system of farming;
8. By affiliating and co-operating with associations organised to improve live stock or encourage grain growing, dairying, forestry or fruit growing, or promote the study of plant life or the destruction of injurious insects and plants. 1899, c. 14, s. 3.

Too many societies seem to think that the sole aim and object of an agricultural society is to hold a show and if that is held then the society has fulfilled the mission for which it was created. This idea may be generally prevalent because in some places that is the chief function performed by the society. But where the work of the Farmers' Institute is combined with the other it makes the field of work which the society may undertake a very wide one,—so wide that the agricultural society should be the most influential body in any community. That it is not is because farmers have not realised the possibilities that lie before them and do not understand that conditions are changing. Because fifty years ago it was perhaps a wise thing to give prizes for the best stock, grains and vegetables, etc., at a show, it does not follow that it is equally wise now. The more I study the show system the more am I convinced that it has largely lost its educational value. In this work we have not advanced as we should have—in fact we are behind the times. The only ground on which any government is justified in giving a grant for show purposes is that it is educational, and if a show is not educational it is useless. I believe it is because so many of our shows have lost their educational value that it is found necessary to obtain all kinds of side attractions to coax the people to attend. From the experience I have had with institute meetings where living animals were used to illustrate the points the speaker wished to make, I think it can be said without fear of successful contradiction that a good two days' stock judging school, as

this kind of a meeting may be called, will accomplish more in a community in implanting correct ideals with regard to live stock than half a dozen shows. To see the desirable and undesirable points of three or four animals pointed out and explanations made as to *why* certain conformations are more desirable than others impresses the truths upon the mind in a way that it is not done at any show.

During the year five new agricultural societies were formed—The Deserett and Magrath Agricultural Society at Cardston, the Vermillion Valley and Beaver Lake Society with headquarters at Vegreville, and others at Sintaluta and Ponoka. This makes the total number of societies in existence at the close of the year 46. Of these two failed to secure the minimum number of members and will therefore not secure a membership grant. The newly formed societies are not given a membership grant unless they hold the two institute meetings required by the Ordinance. Two of the new societies, Ponoka and Sintaluta, failed to hold these meetings, hence will receive no grant.

Two exhibition companies receive a grant with the societies: these are The Edmonton Industrial Exhibition Association, and the Inter Western Pacific Exhibition Company of Calgary. Broadview and Whitewood societies have been amalgamated for show purposes but this arrangement has been dissolved. The best example of amalgamation for show purposes is that of Indian Head, Fort Qu'Appelle and South Qu'Appelle, now holding their fifth united fair.

Under the old Ordinance no provision was made for a society changing its name. This was rectified in the new one and two societies took advantage of it to make a change: that of Stirling being changed to Saltcoats, and Little Cut Arm and Qu'Appelle to Stockholm.

The amount of money expended by the various societies throughout the year was $72,500.00, as compared with $51,000.00 in 1902, and $54,000.00 in 1901, and $37,000.00 in 1900.

During June I had the pleasure of attending the International Convention of Farmers' Institute Workers at Toronto and giving a report on the work being done in the Territories. Ideas were picked up which may be woven into the work here as opportunity presents.

AGRICULTURAL INSTITUTES.

Reference was made in last year's report to the difficulties experienced in arranging for meetings in a country so sparsely settled as the Territories and where there are great stretches of territory intervening between the spheres of influence of the various agricultural societies. As the policy of the department in its institute work is to cover every portion of the Territories, *i.e.*, to serve all parts alike as far as possible, it will be readily seen that it is a somewhat difficult matter to arrange for meetings in districts where there is no local organisation to take hold of them. With increasing settlement new districts are ready for meetings, so that the work of the department is on an ever widening scale. Even where agricultural societies do exist the territory is not always entirely covered, as there are districts in which meetings ought to be held, and which should be tributary to one society or another, but are not. This not only makes it difficult to arrange for meetings but adds to the expense of advertising them. If all meetings were held

under the auspices of the local societies the advertising could be left for them to do, but when a portion of it has to be done by the department any way it may as well be all done. Not only has the advertising to be done for these intervening points but generally the department has to pay for the use of a hall as well. No one being particularly responsible for the meetings there is not the same energy spent in arousing interest in them. I regret to say that something of the same spirit seems to actuate the directors of a few societies, for if they hold the two meetings required by the Ordinance, no matter in how perfunctory a manner, they have the idea that they have done their full duty in the matter. It never occurs to them that they might hold more meetings or make those they do hold more interesting. How to overcome the more or less prevalent indifference to these meetings and make them so interesting that people will be glad to attend is quite a problem. In the first place the officers of the societies need to be strong supporters of the meetings, setting an example by being present and taking part in discussions as well as by endeavouring to arouse local interest. A little variation in the programme has worked well in some cases, the introduction of a song or recitation tends to relieve the monotony sometimes. It certainly is a good plan for an evening meeting. It has worked equally well in some places to give the ladies a share of the programme, for they are interested in nearly everything on the farm. In the second place the men chosen as speakers by the department should be as practical as possible in their talk, and men who can make their addresses plain and easily understood. The writer has always found it helpful to use charts or illustrations of some kind to explain his address. Farmers are keen observers and accustomed to using their eyes. They cannot always remember the points of a long discourse, but if charts or illustrations are used to enforce certain ideas or points they quickly grasp the meaning and it is more firmly fixed in their minds. I have even found it of great advantage to use a chart outlining the chief points of an address. It makes something for the listener to see and around which to group what he hears. Anatomical models of a cow's udder, the foot and hock of a horse, etc, are also excellent things to have. In keeping with this thought is the use of the stereopticon at farmers' meetings. Since joining the department a lantern outfit has been obtained, one known as the Bright White Light. It throws a large-sized picture with a clear definition and can be successfully used in small halls and school houses. The light is a very bright one, produced by vaporising coal oil under pressure in a special attachment and burning the gas produced in an ordinary Welsbach mantle. Slides illustrating typical animals of the various breeds of live stock have been obtained and additional ones will be secured from time to time. Slides also of injurious and beneficial insects, weeds, various forms of plant life and growth, etc., will be obtained so that talks along almost any line can be illustrated. It is hoped that by means of the lantern greater interest can be aroused in the institute meetings. It can certainly be used to impart a great deal of knowledge that would otherwise be somewhat difficult if not impossible to present at the ordinary institute meeting.

Owing to the long distances which people have to come in order to attend meetings it has been only possible in the majority of cases to hold afternoon meetings. One object in securing a lantern was to enable the department to hold evening meetings in towns, and by using the lantern

for illustrative purposes present facts along the line of nature study that would be profitable to the school children and older people as well. The people of the towns are members of and contribute generously towards the support of the agricultural societies, and their needs are entitled to some consideration in the choice of speakers as well as those of farmers. If it is possible to give the town people correct ideas about laying out the grounds around their homes, to instill a greater love for flowers, shrubs and trees, so that they will make their homes more beautiful and thus more attractive, then I think it should be done because it would tend to make a contented and happy people. In this work the vegetable garden and the wonderful possibilities which, in connection with our rich soil, it presents should not be forgotten.

The department is indebted to the Forestry Branch of the Dominion Government for the services of Messrs. George Lang, of Indian Head, and Arch. Mitchell, of Macleod, who so ably presented the cause of tree growing, and used sections of trees grown on the Experimental Farm at Indian Head since it was established to illustrate how rapidly trees will grow upon the prairie.

To Mr. F. W. Hodson, the Dominjon Live Stock Commissioner, is also due our thanks for the assistance he has rendered in supplying experienced institute workers from the East. The work of Mr. Duncan Anderson, of his staff, was greatly appreciated. I was also fortunate in securing for a series of institute meetings in South-Eastern Assiniboia the services of Hon. M. F. Greeley, for many years director of a staff of institute workers in the State of Minnesota, and last winter he occupied the same position in North Dakota. His addresses on Sheep and Poultry Raising were most practical ones. Accompanying him was Mrs. Bertha Dahl Laws, who spoke to the ladies present on topics pertaining to household work. Her talks on plain foods and how to prepare them were most interesting, and I hope the day is not far distant when institute meetings for women will be just as common as those for the men.

The number of meetings held under the auspices of the department during the year is 106. Besides this each society held other meetings so that the total number of meetings runs up to quite a sum. The following is a list of the meetings that were held under the supervision of the department.

LIST of Agricultural Institute Meetings held in the Territories during the Year 1903.

PLACE	DATE	SPEAKERS
Arcola	Mar. 17	
Manor	" 18	
Alameda	" 19	
Glen Ewen	" 20	
Carievale	" 21	
Gainsboro	" 23	
Estevan	" 24	
North Portal	" 25	
Weyburn	" 26	Geo. Harcourt, B.S.A., and George Lang.
Yellowgrass	" 27	
Milestone	" 28	
Rouleau	" 30	
Moose Jaw	" 31	
Marlboro	April 1	
Caron	" 2	
Pense	" 3	
Regina	" 4	
Beaverdale	Mar. 18	
Yorkton	" 19	
Saltcoats	" 20	
Churchbridge	" 21	
Fleming	" 24	
Moosomin	" 25	
Wapella	" 26	
Whitewood	" 27	T. N. Willing and Duncan Anderson.
Broadview	" 28	
Grenfell	" 30	
Wolseley	" 31	
Indian Head	April 1	
Fort Qu'Appelle	" 2	
Qu'Appelle Station	" 3	
Balgonie	" 4	
Prince Albert	" 7	
Colleston	" 8	
Saskatoon	" 9	Geo. Harcourt, B.S.A.
Dundurn	" 10	
Lumsden	" 11	
Maple Creek	" 7	
Medicine Hat	" 8	
Pincher Creek	" 9	
Macleod	" 10	
Stirling	" 11	
Raymond	" 13	Duncan Anderson and Arch. Mitchell.
Cardston	" 14	
Mountain View	" 15	
Magrath	" 16	
Lethbridge	" 17	
Didsbury	" 14	
Olds	" 15	
Innisfail	" 16	
Red Deer	" 17	
Lacombe	" 18	
Strathcona	" 20	
Edmonton	" 21	T. N. Willing and Geo. Harcourt, B.S.A.
Fort Saskatchewan	" 22	
Clover Bar	" 23	
Wetaskiwin	" 24	
New Norway	" 25	
Rosenroll	" 25	
Ponoka	" 27	

LIST of Agricultural Institute Meetings held in the Territories during the Year 1903—*Continued.*

PLACE	DATE	SPEAKERS
Moosomin	June 22	James Fletcher, LL.D., and Angus Mackay.
Hillburn	" 23	
Tantallon	" 23	
Sumner	" 24	
Ohlen	" 24	
Cotham	" 25	
Broadview	" 25	
Wolseley	" 26	
Ellisboro	" 26	
Pheasant Forks	" 27	
Abernethy	" 27	
Medicine Hat	" 22	Duncan Anderson.
Olds	" 23	
Innisfail	" 24	
Red Deer	" 25	
Lacombe	" 26	
Ponoka	" 27	
Fort Qu'Appelle	" 29	James Fletcher, LL.D., and T. N. Willing.
Indian Head	" 30	
Cottonwood	July 2	
Lumsden	" 2	
Kennell	" 3	
Loon Creek	" 3	
Foxleigh	" 4	
Davin	" 6	James Fletcher, LL.D., and J. R. C. Honeyman.
McLean	" 6	
Edgeley	" 7	
Golden Plain	" 6	Hon. M. F. Greeley, Geo. Harcourt, B.S.A., and Mrs. Bertha Dahl Laws.
Fairmede	" 6	
High View	" 7	
Glen Adelaide	" 7	
Redvers	" 8	
Arcola	" 9	
Carlyle	" 9	
Dalesboro	" 10	
Oxbow	" 10	
Gainsboro	" 11	
Carnduff	" 11	
Boscurvis	" 13	
Weyburn	" 14	
St. Louis	Oct. 3	J. G. Washington and Geo. Harcourt, B.S.A.
Brancepeth	" 5	
Kinistino	" 6	
Coxby	" 7	
Macdowall School House	" 8	
Red Deer Hill	" 9	

STOCK JUDGING SCHOOLS.

Before closing this section of my report I wish to refer to a new class of institute meetings that has been held this year. As previously mentioned, I always like to use charts to illustrate my addresses; for instance, in speaking on the beef steer I use a chart showing how the butchers cut up a carcass of beef. On it is marked the retail value of each section as sold by them. This illustrates why a certain conformation of type in a beef steer is better than another and why one steer is worth more than another on the open market. This kind of illustrative work is good and gives the listener a very fair understanding of the subject, but for all that, it is defective in that no two men will carry away exactly the same idea of what the speaker means. This is because each man's idea of perfection in any one part of the animal form and the animal generally is limited to his previous knowledge and experience. It is not enough to tell a man that the back of a beef steer must be broad and well covered with a deep coating of firm flesh, or that the loin must be strong and well covered; to make the lesson perfect he must also be shown what the speaker considers perfection in these parts of the living animal. What one man considers perfection may only be indifferent fleshing in the opinion of another man of wider experience and fuller knowledge. Because of this, I have always believed that if it were possible to have one or more living animals present and use them as a basis to talk from, much better results would be accomplished because farmers would then see with their own eyes these points and could compare desirable and undesirable conformations.

At his meetings throughout the Territories, Mr. Duncan Anderson always made a point of using living animals for illustrative purposes whenever it was possible, even taking the audience out on the street while he showed them the desirable points of a good draft horse. The success with which this style of instruction has met led me to arrange a series of meetings during June in Alberta at which the presence of living animals for illustrative purposes was the chief feature. Mr. Anderson, who was to act as expert judge of cattle at Edmonton and Calgary exhibitions, was secured to address these meetings. In advertising the meetings it was announced that animals would be used for illustrative purposes. As a result the attendance was very much larger than at any previous meetings held at these various points. The eagerness with which information along these lines was sought fully convinced me that meetings of this nature are really what people want. So satisfactory were they that a second series, lasting for two days at each point instead of only one, was arranged for during the months of January and February. Though the weather was very cold the attendance was so large, and the interest taken in the proceedings so very great, that I am encouraged to hold many more meetings of this kind. The value of correct ideals in stock breeding is of the first importance and the young men of any district can obtain at these meetings a foundation that will be of incalculable benefit to them in their future work. The score cards used give the values of the different parts of the animal form in their relation to one another so that a man will be taught to value all the points and not place undue importance on any one. As a brief description is given on the card in explanation of each point the student has this always for reference. The score card is only used in teaching the

relative values of the various points and is not intended for actual use in the field or stable. The success attending these meetings suggests others along the line of judging grain, vegetables and roots, etc.

AGRICULTURAL FAIRS.

As previously mentioned, the idea seems to be general that the sole mission of an agricultural society is to hold a fair, and that it must be along the time honoured lines or it is not a fair. So stereotyped has the average local fair become that one would be safe in predicting about the amount of prize money each exhibitor would win and what it would be won on. In fact one critic says: "The average fair is an expensive burlesque to divide a little Government money among a few people." Perhaps he may have been unduly severe, but there is altogether too much truth in this criticism. The educational value of the show has been lost sight of entirely, and the sole aim seems to be to see how much money can be secured with the least possible labour. When this stage in the history of a society is reached its fair has lost any power to attract people, and then so-called attractions are introduced to draw a crowd. The people come but go away dissatisfied and hungry because they have not been intellectually fed. Some of the young people may continue to go in order to see the fun but the older people stay away. So far as serving the purpose for which fairs were originally instituted is concerned many of our agricultural societies may as well cease to exist. Unless directed into a new channel many of our small societies will be compelled to disband from sheer lack of interest and hence of financial support. This narrow view of the work of the agricultural societies must be broadened. The scope of the work that can now be undertaken by an agricultural society is very broad and, besides giving room for expansion, is capable of taxing the best energies of the farmers in any district. The clearest thought ought to be put into the work in order to turn the fair from its present downward course to an uplifting, helpful one. This cannot be done all at once, but it is wonderful what a strong pull altogether can do. Just how to make the show more attractive is quite a problem but one to which we must resolutely set ourselves, for the day of the old time fair is past. The amusements and holiday features of the annual show can be supplied in many cases in a cheaper way by a picnic than that now followed. I cannot believe that the farming community of this country is so lacking in good sense that it will not support a show if the educational side of it were made a strong point. Instead of so many prizes being given for stock let there be quite a number given for stock judging by men and boys of various ages. In fact there is no reason why a large number of the prizes now offered at the average show could not be cut out and the remaining ones placed by farmers or farmers' sons in competition, to whom prizes would be given for correct work before being decided by the department's expert judges. By reducing the number of sections in each class of live stock there would be time for competitors to pass upon them before the regular judges pronounced the final decision. In this way stock judging could be made the main feature of the show rather than a side issue as at present. Then additional prizes could be given for the best fitted and best shown animals in various sections, thus encouraging individual work in fitting animals. There is an art in fitting and showing animals and it

ought to be encouraged. Then there might be prizes for the best groomed, fastest walking team, also for speed in harnessing and unharnessing, hitching up and driving a certain distance and unhitching, best trained horses, etc. When this is all through let some time be given to a school of stock judging in which a review of the previous work might be given. The same line of work could be applied to other features of the show, as in the classes for grains, grasses, vegetables, roots and dairy products. I am sure a school in judging grain following the judging in the various classes by farmers and their sons would be very interesting and draw out many a competitor. If the qualities sought for in growing vegetables and what is considered perfection were explained, would it not be interesting as well as instructive? A ploughing match with instruction in ploughing could be added, and so on the work would go until the fair could be made a field day of instruction. If co-operative experiments are being conducted by the society why should they not be on the grounds where they would be seen by all and thus their value greatly increased? Other experiments of a useful character might be added by the society.

The ladies do a great deal to help along the work of an agricultural society and are entitled to some consideration along the same lines as proposed for the men. If there was an expert present to demonstrate in plain cooking, or prizes were offered for certain simple dishes actually cooked on the ground, followed by a school of instruction, would not the ladies be there in force? If the same idea was followed in baking bread, buns, etc., would they not be there? If these innovations were properly introduced I believe the fairs can be rejuvenated and made to serve as useful a purpose today as they did when they were originally started.

I am pleased to report that the officers of quitc a few societies are waking up to the necessity of doing something to make their annual fair more educational and I trust a gradual change for the better has set in. Under present circumstances it is absolulutely necessary to secure a large attendance at the fair in order to insure a financial success, and fair managers may be pardoned to some extent for trying to secure exhibits or attractions that will draw the people. At some fairs the sports partake of the nature of athletics, professionals being barred of course, and it is found to work well. Officers of societies will do well to be on the watch against questionable side attractions that will likely flood the country this year after the Dominion Exhibition at Winnipeg is over.

The usual agricultural societies statistics for the past year will be found on the following page.

XVIII.—AGRICULTURAL Societies 1903.

NAME	No. of members	Institute: No. of meetings	Institute: Total attendance	EXHIBITION STATEMENT: Date of exhibition	Paid in prizes for sports, etc.	Paid in prizes	Number of entries	FINANCIAL STATEMENT: On hand 1902	Exhibition grant	Membership grant	Miscellaneous receipts	Total receipts	Total expenditures	Balance on hand	Assets	Liabilities
Alameda	41	3	78		$	$		$109 37	$	$	$ 41 00	$ 41 00	$ 49 50	$ 100 87	$	$
Broadview & Whitewood	53	2	90	Aug. 13		410 00	318			116 00	422 75	538 75	538 75		1,550 00	150 00
Central Assa				Aug. 5-6	218 00	1,101 00	661		773 69		1,775 08	2,548 77	2,475 15	36 81		
Central Sask	73	2	47	Sept. 29-30		177 95	765	68 27		81 00	210 00	291 90	382 23	50 40	330 00	401 00
Cardston	96	2	67	Oct. 28-29			179				208 00	304 00				
Carrot River	108			Oct. 6		178 75	328	9 88		106 00	125 50	231 50	269 48		3,080 00	61 10
Deserett	100	2	201	Oct. 22		136 50	145				286 00	286 00	224 50	61 50		
Edmonton Ind. Ex. Ass'n				June30, July1-2	4,190 40	2,107 75	797	242 27	1,000 00		13,673 50	14,915 87	14,761 32	154 55	25,635 30	
Fairmede	149	2	54	Oct. 6	3 00	370 75	465	210 83	182 40	150 00	228 50	560 90	498 15	273 58	500 00	
Fort Qu'Appelle	153	2	64					130 77		133 00	170 00	303 00	425 73	8 04	3 00	
Fort Saskatchewan	120	2	54	Aug. 17-18	315 25	330 00	531	58 45		114 00	777 85	891 85	938 08	12 22	2,527 22	310 00
Gainsboro	151	2	90	Aug. 8		169 65	352	10 58		127 00	173 30	300 30	270 00	30 88		37 30
Grenfell	154	2	80	Oct. 8		375 55	444	123 39		150 00	435 25	585 25	579 60	129 04	500 00	
Indian Head	203	2	40					177 59		150 00	443 00	593 00	768 77	1 82	401 82	150 00
Innisfail	158	6	185	Oct. 7		555 50	495	20 43		150 00	681 70	831 70	737 87	38 26	1,020 00	748 00
Inter.-West. Pac. Ex. Co.				July 7-10	928 35	2,198 75	587		933 27		7,240 58	8,173 85	7,926 71	247 14	257 85	1,376 61
Lacombe	122	3	107	Aug. 20	539 50	524 58	325	49 75	233 88	116 00	1,091 08	1,480 71	1,392 71	98 00	1,925 00	825 95
Lethbridge & District	137	5	175	Oct. 6-7		425 60	432	2 68	214 29	83 00	1,416 10	1,713 49	1,716 07		3,405 00	953 90
Lorne	100	3	59	Aug. 11-12	152 50	588 25	386	16 12	338 30	126 00	1,474 55	1,938 85	1,786 36	168 61	2,609 24	246 60
Moosomin	161	3	165	Aug. 4		465 00	405		183 00	150 00	531 20	864 20	803 46	30 37	1,200 00	400 00
Macleod & District	154	2	38	Oct. 15-16	705 00	512 25	232	4 67		148 00	1,595 28	1,743 28	1,907 28	10 45		600 00
Maple Creek	184	2	100	Sept. 29-30	94 00	670 50	490	27 19	203 38	150 00	409 25	861 88	778 69	146 69	1,000 00	100 00
Medicine Hat	86	2	79	Oct. 1-2		592 75	574		270 65	150 00	1,196 25	1,616 90	1,500 49	137 41	714 31	202 45
Moose Jaw	176	2	45	Oct. 21-22		519 00	470			93 00	555 90	648 90	865 77			216 87
Moose Mountain,	155	3	165	Oct. 2		701 75		728 37	324 52	150 00	529 66	1,004 18	868 49	1,019 06		
N. E. Assa	56	2	45	Sept. 30	2 00	305 75	635	234 47		71 00	102 00	173 00	365 30	42 17		
Olds	172	3	48	Oct. 5-6		380 60	382	13 15		142 00	575 50	717 50	867 80	34 85	1,000 00	400 00
Pincher Creek	68	2	55	Oct. 8		402 50	258	224 03		74 00	244 35	318 35	559 79	70 59	1,600 00	
Red Deer	76	2	50							64 00	86 00	150 00	76 35	73 65		
Regina	334	3	47	Aug. 11, 12, 13	973 25	988 75	571	169 24	729 84	150 00	1,878 05	2,757 89	3,234 86	26 27		
Rosthern & Hague	75	2	92	Oct. 1		217 05	237		169 00	115 00	81 00	365 00	394 55	45 45		
Saltcoats	152	2	83	Oct. 2		456 50	696	46 88	178 65	150 00	220 89	549 54	749 78		1,092 00	108 15
Stockholm	54	2	60	Oct.		117 00	188			54 00	129 67	183 67	164 50			59 17
S.E. Assa	154	3	140	Aug. 6			279	36 50		140 00						
S. Edmonton	114	2	19	Aug. 13-14	300 00	605 85	768	33 10	265 06	150 00	4,444 45	4,859 51	4,929 17		1,800 00	836 56
S. Qu'Appelle	215	2	100					110 81		150 00	582 55	732 55	851 50	1 86	275 00	160 40
S. Saskatchewan	51	2	28					20		51 00	51 00			48 80		22 50
Sheep Creek	109	2	41	Oct. 13		503 75	626	03		70 00	725 55	795 55	768 37	27 21	225 00	290 00
Vermillion V'ly & B. Lake	112	2	57	Sept. 30		255 25	360				586 20	586 20	434 10	152 10	282 17	434 27
Wapella	194	1	50	Aug. 14			341			150 00	194 00	344 00	161 00	182 69	2,000 00	14 82
Wetaskiwin	52	2	60	July 3-4		133 75	97	206 62		83 00	136 95	219 95	249 02	229 55		50 75
Whitewood	88	2	35					43 88		88 00	88 50	176 50	210 40	21 98		78 02
Wolseley	159	2	37	Aug. 7		418 70	246	44 85		55 00	931 10	986 10	953 20	22 75	2,467 00	764 25
Yorkton	108	2	63	July 14-15	778 00	619 00	472	171 81	1,000 00	142 00	3,761 28	4,903 28	4,981 21	93 88	7,464 88	2,690 69
1903	5,177	93	1,103		9,199 25	18,516 28	15,537	3,326 18	6,999 93	4,342 00	50,510 32	61,977 72	72,426 06	3,828 50		
1902	4,928	91	3,316		8,803 29	16,707 93	16,029	6,412 78	6,805 55	3,829 00	37,148 48	47,633 13	51,004 57	3,902 62		
1901	4,588	108	5,071		7,954 42	15,766 32	14,327	893 77	7,205 87	2,989 00	39,217 61	50,432 38	54,274 45	6,027 34		
1900	4,216	47	799			14,538 58	9,836	3,801 72	13,122 70	7,238 33	19,624 29	39,985 32	36,694 02	7,917 35		

OFFICIAL LIVE STOCK JUDGING.

The plan of supplying expert judges to place the awards in the various classes of live stock at the Territorial exhibition continues to meet with the approbation of the boards of management of the various societies. It has relieved them of a lot of worry and removed the cause of local bickerings and jealousies. It is looked upon as a boon. The greatest difficulty experienced in connection with the expert judges is to so arrange the fairs in series or circuits that the judges can pass from one to another with the least waste of time and expense. In the past there have been too many long waits between fairs and in any event no society seems to want a fair on a Saturday or a Monday, but the department has to pay the judges both these days and Sunday too. A step in advance, however, was made during the year by calling meetings at convenient points in various districts early in the year, at which delegates from interested societies attended to set fair dates. Meetings of this kind were held at Alameda, Regina, Rosthern and Lacombe. This plan resulted in getting the fairs arranged much closer together, but, even so, too many of them were rather farther apart than is found best for economical working. These meetings have had another good effect, one which was especially noticed at Regina—that of bringing the officers of the societies and the officials of the department into closer touch with each other. More meetings of this kind will be held, and in time they will lead up to a convention of fair delegates.

In supplying expert judges to the various societies the department has been materially assisted by the Canadian Pacific Railway authorities in the way of free transportation. In this way it has been possible to cover more ground than could possibly have been done otherwise. The railway authorities have been most generous in their treatment of the department and the farming community has profited thereby. Two judges were supplied to almost every fair, as it was found impossible for one man to overtake the work in time. Some difficulty was experienced in getting suitable men to attend as many of the fairs were held about the same time. During the past season experts appointed by the department took charge of the judging in the horse, cattle, sheep and swine classes at the following points:

Summer Fairs.

Edmonton, Wetaskiwin and Calgary—Duncan Anderson, of Rugby, Ont.; and Geo. Gray, of Newcastle, Ont.

Yorkton—W. J. Black, of Winnipeg; and Dr. C. D. McGilvray, of Binscarth, Man.

Carnduff and Gainsboro—S. R. Edwards, of Indian Head, Assa.; and J. A. Chapman, of Beresford, Man.

Prince Albert—W. J. Black, of Winnipeg; and S. R. Edwards, of Indian Head.

Moosomin, Fort Qu'Appelle and Wolseley—W. W. Fraser, of Emerson, Man.; and W. J. Black, of Winnipeg.

Regina, Broadview and Wapella—John Stott, of Brandon; and Andrew Graham, of Pomeroy, Man.

Strathcona, Fort Saskatchewan and Lacombe—W. W. Fraser, of Emerson; and Wm. Moodie, of DeWinton, Alta.

Fall Fairs.

Saskatoon, Rosthern and Kinistino—W. J. Washington, of Ninga, Man.

Carlyle, Fairmede and Grenfell—J. A. S. Macmillan, of Brandon; and J. A. Chapman, of Beresford, Man.

Olds, Innisfail, Red Deer, Okotoks and Macleod—S. R. Edwards, of Indian Head; Wm. Sharman, of Brandon.

Maple Creek, Medicine Hat, Lethbridge and Pincher Creek—S. W. Paisley, of Lacombe, Alta.; and W. J. Black, of Winnipeg.

Saltcoats and Churchbridge—S. Benson, of Neepawa, Man.; Geo. Rankin, of Hamiota, Man.

A glance at the foregoing list serves to show the wide territory covered by the expert judges, and the difficulty arising from short circuits and individual fairs, of which there will always be some because the fairs are held at different seasons. For instance, judges traversed the Calgary and Edmonton line three times to cover the fairs along that line. The only way to avoid this is to have all the fairs at one season. Economy and better service may compel such a course. Some of the societies had dates set for them, then allowed the expert judges to arrive only to find the fair had been cancelled months before but no notice sent to the department. Others again did not send delegates to the meeting to arrange fair dates, and late in the season wrote for expert judges for dates of their own choosing which were not in harmony with the plans of the department. A little of this can be put up with at the beginning, but societies will have to learn that they must fall in line if they are to benefit by having expert judges supplied to them free of all cost.

The department is under obligation to the Dominion Live Stock Commissioner for placing at our disposal judges and speakers for the Spring Stallion and Cattle Show at Calgary, held under the auspices of the Territorial Horse and Cattle Breeders' associations; also for the Edmonton and Calgary exhibition and the live stock judging school along the Calgary and Edmonton line in June.

GEORGE HARCOURT.

V.—GENERAL NOTES ON AGRICULTURE.

With the development of the various branches of agriculture in the Territories there are found to arise many matters of interest which it is felt should receive attention in a report which aims to deal with every phase of our principal industry and which cannot appropriately be considered under the sectional headings hitherto in use. I have therefore thought it advisable to devote a special section of the report to a brief consideration of various matters of this sort that have come to the department's notice during the year.

EARLY RIPENING WHEAT.

While no variety of wheat is likely entirely to displace the standard wheat of the North-West, Red Fife, there has been on the part of our farmers a general desire to secure a variety which would ripen a little earlier and so escape the danger of frost which frequently seriously affects immature grain in backward seasons. Careful experiments with this end in view have been conducted for some years under the direction of Dr. Wm. Saunders, Director of the Dominion Experimental Farms. As a result a variety has been obtained, known as Early Riga, which seems to be of the highest promise. This wheat was obtained by crossing an Indian wheat named Gehun, brought from a high elevation in the Himalayas with a Russian wheat known as Onega, procured from the vicinity of Archangel, one of the most northerly wheat growing districts of Russia Dr. Saunders states that during the five years this wheat has been under trial it has ripened on an average eight to nine days earlier than Red Fife and gave an average crop 31 bushels 2 pounds per acre, about 2 bushels 5 pounds less than Red Fife. A sample from Ottawa submitted to a Minneapolis expert showed about 20 per cent. more gluten than Red Fife from Indian Head while the quality of the gluten in the Early Riga was considered quite equal to that of the better known variety. Dr. Saunders in his report says:

> With reference to the high quality and early maturing habit of the Early Riga wheat the information presented is most encouraging. If this wheat on further trial maintains its earliness, quality and productiveness, its general introduction may largely influence the future of wheat growing in Canada.

BARLEY FOR MALTING.

Only the stimulus of a permanent and sufficient market is required to induce our farmers to undertake the production of barley suitable for malting purposes. There is absolutely no natural or physical obstacle in the way; barley is our hardiest and surest crop. There are two phases of this question and it is necessary to consider them separately. (1) The growing of malting barley for the British market; (2) The growing of

malting barley for local use. Some remarks on the first mentioned phase will be found under the section "Transit and Markets." There are at the present time six breweries in active operation in the Territories which together consume in the form of malt some 100,000 bushels of barley annually equal to over one-fourth part of the total quantity of barley grown in the Territories. As no special attention is at present paid to growing this crop with a view to the requirements of brewers the latter find it necessary to import from the United States or Ontario practically all their material either in the form of malt or barley. Attempts to make use of locally grown barleys so far have not proved encouraging to brewers mainly on account of uneven samples—the two-rowed and six-rowed varieties being frequently mixed—or to unfavourable weather conditions or faulty handling at harvest time. Brewers require a six-rowed barley, plump, clean and bright and absolutely free from smut and all other kinds of grain or weeds. It is better grown on new land or after summer fallowing, and in harvesting must be cut ripe and kept free from frost and rain. Brewers express themselves as willing to pay from 35 to 40 cents a bushel for a first class article which, even at the average yield of this cereal for the Territories of 25 bushels per acre, should make it a remunerative crop. As there is every prospect that the brewing and malting industry of the Territories will in the near future assume very considerable proportions, it would seem not unreasonable to recommend our farmers to seriously consider the advisability of devoting a portion of their land to the production of malting barleys of high quality. Agricultural societies might do something to stimulate interest in this direction by offering prizes for barleys of this kind.

FLAX.

This crop proved a practical failure last year in many districts, and, as market conditions were moreover most unsatisfactory, there is hardly likely to be any considerable extension of its cultivation under present conditions. There is a linseed oil mill in Winnipeg which handles the bulk of the Manitoba crop but most of the Territorial product goes to Ontario mills. The establishment of oil mills in the West, thus providing a local market for Territorial grown flax seed, would be effective in stimulating the production of this crop. Meanwhile farmers may turn their attention more profitably to other things. It would appear desirable that trials of flax for fibre purposes should be undertaken, particularly in Northern Alberta where conditions are believed to be favourable for its cultivation; this would of course necessitate the importation of suitable seed. As there was last spring a considerable demand for information, especially on the part of new settlers, relative to the proper methods of cultivating flax in the Territories, a bulletin, No. 6, was prepared by Messrs. George Harcourt, B.S.A, and T. N. Willing, of the department's technical branch. This bulletin, which was illustrated, dealt very fully with all matters relating to the cultivation of flax in the West, and the demand for it on the part of the public was large.

TERRITORIAL GRAIN GROWERS' ASSOCIATION.

The third annual meeting of this association was held in Regina in December and was attended by the Commissioner of Agriculture and Mr. George Harcourt on behalf of the department. Several matters of much interest were dealt with and a number of important resolutions were passed. A full report of the proceedings has appeared in the Territorial press and has also been published by the association in pamphlet form. There is no room for doubt that the association has done valuable work on behalf of the grain growers of the Territories and should receive hearty public support.

HAY.

The time is rapidly approaching, if it has not already arrived, when farmers in the eastern part of the Territories must pay more attention to the production of tame hay. The advance of settlement has shut off large areas from which natural hay was formerly obtainable, in addition to which the demand, especially in the larger towns, has outgrown the possibilities of that source of supply if available. An example of this may be found in the fact that during last winter baled hay, which cost $22.00 laid down at its destination, was brought into Regina from points along the Calgary and Edmonton Railway and was freely sold at a considerable premium Ordinary "prairie wool" also sold readily at $20.00 a ton and was often not obtainable at that price.

STEAM CULTIVATION.

Within the last year or two the attention of many of our larger farmers has been directed to the matter of steam ploughing. As will be seen from the illustration (Plate VI, end of volume) which represents an outfit as actually used on the farm of Mr. F. W. Green, a prominent farmer in the Moose Jaw district, the apparatus commonly employed consists of an ordinary farm traction engine drawing two or more sets of gang ploughs. Mr. Green has been kind enough to furnish the department with some particulars as follows:

Yours of the 25th February, *re* steam plough, to hand. I am enclosing, under separate cover, a picture of machine just ready to start breaking. You will see I use eigbt 12 inch furrows for breaking. They cut a little over this making just one acre per mile 8¼ feet wide. Engine travels one mile in 20 minutes, or two miles per hour, including time for turning and stops for water, coal, etc. I require two barrels of water and 125 lbs. of Galt coal per mile with full load at that speed. I use a team of ponies to steer engine and have a small boy to drive; one horse walks down furrow. Engine travels clean upon unploughed land. I use front trucks of a wagon on end of engine tongue set anglewise so as to put off wheel in furrow. The furrow wheel of first plough exactly follows this wagon wheel. If driving is done straight ploughing will be the same, to half an inch. I use one tank set on a wagon for water supply at end of field. Water supply tank at engine is low down so water from large tank can be run in quickly. In turning I pass between or close by coal and water. We stop every two miles for water. Waterman keeps these supplied and in position. In plougbing stubble or backsetting I use four 3-disc Rock Island Disc Ploughs, 12 furrows. They cut from 10 to 11 feet wide; do not run as straight

as breakers but do fairly well. We did last year from 22 to 25 acres per day on summer fallow in the same hours as the horses would work. A great deal more could be done by working longer hours. I have broken 17 acres in eight hours. There are many people at different points whom I have heard of doing considerable more than this, the best I have been able to do so far. Of course our ground is very heavy and sticky. I believe 25 per cent. more could be done on sharper ground with same power and time. My engine is a common threshing engine, a 30-horse compound, of J. I. Case make, and does this work with comparative ease. I require one good engine man, one good man to attend ploughs, a team and man to haul water and a team and man to drive. I use mares raising foals, etc., to do this work that would not be fit for real hard work. Any boy or kind of man can haul water or drive. Anything that is not clear here I shall be glad to explain if required.

The possibilities before the use of steam machinery for agricultural operations in the North-West are of course limited by the cost of procuring water and fuel and to a less extent perhaps by readiness of access to properly equipped repair shops.

The following figures have been compiled from information given by farmers as to the relative cost of steam and horse cultivation.

Cost of Horse Cultivation.

Breaking	Per acre	$3 00
Backsetting	"	2 00
Discing	"	2 00
Harrowing, 4 times at 25 cents	"	1 00
Cost	"	$8 00

Cost of Steam Ploughing and Horse Cultivation.

Assume 100 working days and 20 acres are broken per day of 10 hours. Capital outlay in steam plough, say $3,500.

Engineer	Per day	$3 00
Assistant	"	2 00
Ploughman	"	2 00
Oil, etc.	"	1 00
Coal	"	7 50
Hire of team	"	5 00
Interest, wear and tear and depreciation	"	7 00
Backsetting, at $2.00 per acre	"	40 00
Discing	"	40 00
Harrowing, 4 times at 25 cents	"	20 00
Cost for 20 acres	"	$127 00
Cost per acre		$6 40

Some interest was excited last autumn by the introduction of an entirely new apparatus for steam cultivation known as the Darby Land Digger (See Plate VII). This machine has been introduced by an English firm of agricultural engineers. It consists essentially of a triangular frame attached to the rear of a sufficiently powerful traction engine. The frame bears a number of pairs of discs which while working are kept rotating by means of endless chains. The action of these discs which will work the ground from 3 to 11 inches deep is that of slicing, stirring and pulverising. The machine cuts 12 feet wide and

practically breaks, backsets, discs and harrows at the same time. Some trials with this apparatus were conducted in the vicinity of Regina last autumn but these cannot be said to be completed until it is known how the crops put in on the ground treated by the digger turn out. The machine appears to be easily handled but the first cost is considerable, in the neighbourhood of $5,000 00. As against this it is claimed that the Digger will prepare land for crops in one operation at the rate of at least 10 acres a day, the cost per acre being estimated at $3.75.

VI.—TRANSIT AND MARKETS.

WHEAT.

Statistics appear to indicate that the United States as a source of supply for the United Kingdom is on the wane and that the latter country will have to look more and more to Canada, Argentine, India and Australia for this cereal. The following figures from the latest edition of Broomhall's Corn Trade Year Book are significant in this connection:

American Exports of Wheat and Flour.

	Bushels.
1898	218,000,000
1899	223,000,000
1900	186 000,000
1901	216,000,000
1902	235,000,000
1903	203,000,000

The same authority estimates the total for the current season as not more than 160,000,000, a falling off of 25 per cent. from the average of the preceding six years. This diminution in the supply of American wheat has already resulted in a general abatement in the speculative activities of European operators and it is reported that the volume of option dealing between Europe and America has fallen off 50 per cent. in the last three years. These facts have no doubt been largely influential in securing for Manitaba wheat the somewhat tardy recognition accorded by the British grain exchanges which have during the past year listed it as a grade tenderable on contracts for future delivery, on western inspection certificates. This action, which cannot but be regarded as bare justice in view of the fact that the wheat of Manitoba and the Territories now forms something like nine-tenths of the total quantity exported in the form of grain and flour from the Dominion—the bulk of which goes to the United Kingdom—should inspire, if any inspiration is needed, the greatest confidence in the future of wheat production in the West.

FLOUR TRADE WITH THE ORIENT.

Some remarks appeared in the report of this department for 1902 as to the possibility of a profitable market being opened up with China and Japan for western wheat in the form of flour. It was expected that one result of the demonstration with Canadian flour at the recent Osaka Exhibition would be a considerable stimulation of trade in this commodity with the latter country. Up to the present this desirable end

has not been attained to any extent and Canadian flour exports to Japan still continue insignificant when compared to American ones, which for the past three years were as follows: 1901, 354,887 barrels; 1902, 446,435 barrels; 1903, 719,496 barrels. A beginning, however, appears to have been made, and it is satisfactory to find that Territorial mills are getting a share of such business as has been done, several of these having during the past year secured contracts for export to Japan of a considerable portion of their output. The Oriental trade is a somewhat uncertain quantity and during the continuance of the present war there is little to be gained by attempting trade forecasts. Much will depend upon the nature of the settlement arrived at upon proclamation of peace. It may be pointed out, however, that Manchuria, which is destined to play such an important part in the present struggle, is one of the richest agricultural countries in the world and already possesses a thriving milling industry which shows unmistakable signs of healthy development The city of Harbin is stated to have some ten modern roller mills in operation with a daily total capacity of 4,600 barrels. Australia, too, will likely prove a disturbing and uncertain factor in the flour trade of the Orient for, while last year that country was importing wheat owing to failure of her crops through drouth, this year she has an exportable surplus of over 50,000,000 bushels. It is not probable that Korea will have an appreciable effect on the situation as it is stated to be a country physically unsuitable for extensive agricultural operations. Any consideration of trade with Japan must be governed by the fact that with all their recent and rapid progress in the arts of civilisation the mass of Japanese are still essentially oriental in their social condition and methods of living. The scale of wages paid for labour in that country is extremely low, and therefore any commodity for domestic consumption must be of the cheapest possible kind. The staple food of the Japanese labourer is rice, of which that country produces about 200,000,000 bushels annually and imports about the same quantity. There is statistical evidence, however, that the limits of production of the islands have been nearly reached, and that the country must depend more and more on outside sources for food for its teeming population. The essential qualification for securing a foothold in the flour trade with Japan would appear to be cheapness and the ability of our millers to manufacture low grade flours in sufficient quantity to satisfy the demand of the market when one is fairly established. At present it is true there is some demand for flour of a better quality owing to the abnormal conditions created by the *status belli*, but under peace conditions it is safe to say that our millers will for a number of years find more profitable markets for their higher grade products. The situation has been ably summed up by United States Consul-General Bellows at Yokohama, as follows:

Wheat flour has largely displaced rice flour in the preparation of many Japanese sweets and cakes, and a great deal of the former is now used for this purpose and for paste for the manufacture of fans, screens, etc. For this reason Japanese dealers prefer flour rich in starch and dextrin, being less particular about the whiteness; thus the flour which ranks best in the home market sometimes proves less acceptable to the Japanese than that which is considered inferior in the United States, and exporters should bear in mind this difference in the requirements of the market.

Among the Japanese wheat flour is not yet generally used for making bread, but a few are beginning to vary their diet by its introduction, and in the further development of this tendency lies the possibility of an immence market for the

production of American mills. It has been said that a Japanese eats on an average one pound of rice per day. The country, exclusive of Formosa, has a population of 42,300,000, and therefore the nation must consume as food 15,439,500,000 lbs. of rice per annum. The official report of the amount of rice raised in Japan increased hy the excess of imports over exports shows that more than 16,000,000,000 lbs. were used in each of the years 1901 and 1902. If the people of the country should vary their diet by the use of bread in place of one-half the rice now consumed, the amount of flour required would be nearly thirty times as great as the unprecedented importation of 1903. Such a change in the diet of the nation is not a future improbability, provided a pound of flour continues to be furnished the consumer at the same price as a pound of rice and is found to possess equal nutritive value.

STANDARD SAMPLES.

The department has made arrangements to secure each year a set of the standard samples of wheat grades such as are furnished mills and elevators throughout the West. These are open to the inspection of the public at the department's offices in Regina.

FLOUR AND GRAIN EXPORTS OF THE TERRITORIES.

Through the courtesy of Mr. F. W. Peters, Assistant Freight Traffic Manager of the Canadian Pacific Railway, I am able to give some interesting statistics under this head:

XIX.—TERRITORIAL Exports of Grain and Flour 1903.

MONTHS	EXPORTS EAST					EXPORTS WEST				
	Flour 98 pound sacks	Wheat Bushels	Oats Bushels	Barley Bushels	Flax Bushels	Flour 98 pound sacks	Wheat Bushels	Oats Bushels	Barley Bushels	Flax Bushels
January	2,211	1,135,835	....	....	.....	1,860	41,916	50,618	.....	.....
February	4,530	1,014,434	29,550	....	6,442	2,433	5,871	38,478	.....	.....
March	2,736	967,889	40,450	....	5,732	1,711	28,400	36,620	.....	.....
April	5,185	1,107,443	2,176	....	1,696	2,561	14,303	31,965	.....	.....
May	.....	1,408,504	....	....	2,000	2,495	5,194	68,611	.....	.....
June	915	619,788	26,677	815	7,500	2,627	16,085	70	.....	.....
July	410	140,522	4,060	....	3,666	18,844	6,275	62,273	.....	.....
August	.....	23,530	11,736	833	1,548	7,970	2,700	33,447	.....	.....
September	.....	284,010	35,818	666	1,000	556	796	8,667	.....	.....
October	4,340	1,424,639	98,190	830	30,401	7,120	5,007	15,221	.....	.....
November	3,821	1,381,478	41,220	....	54,890	3,057	25,887	47,344	.....	.....
December	1,247	1,414,198	36,764	....	38,309	3,422	38,462	95,536	.....	.....
Totals	25,395	10,922,270	326,641	3,144	153,184	54,656	190,896	488,850	.....	.....

XX.—AVERAGE Price of No. 1 Hard Manitoba Wheat in Store, Fort William, for each week of 1903.

Week ending	Average price in cents per bushel	Week ending	Average price in cents per bushel
Jan. 8	70 1/6	July 9	82 7/16
" 15	72	" 16	83½
" 22	74 3/8	" 23	83⅝
" 29	74 1/6	" 30	83¾
Feb. 5	74	Aug. 6	86¼
" 12	74 3/5	" 13	87½
" 19	73 3/8	" 20	89
" 26	74	" 27	90
March 5	74	Sept. 3	85½
" 12	73	" 10	86⅝
" 19	73 1/6	" 17	87¾
" 26	72¾	" 24	84⅞
April 2	73 1/8	Oct. 1	80¼
" 9	74 3/8	" 8	81½
" 16	75 2/5	" 15	83¼
" 23	76 5/8	" 22	83 5/6
" 30	76 2/3	" 29	83 1/3
May 7	77 1/5	Nov. 5	81⅝
" 14	77½	" 12	79¼
" 21	78¼	" 19	77 5/8
" 28	78 5/8	" 26	79 1/6
June 4	78 2/3	Dec. 3	78⅜
" 11	78 5/6	" 10	77¾
" 18	78¾	" 17	77 1/3
" 25	80 7/8	" 24	78 7/8
July 2	81 5/8	" 31	80

XXI.—GRAIN Elevator and Warehouse Capacity Statistics.

* CROP DISTRICTS	1901 Capacity in bush.	1902 Capacity in bush.	1903 Capacity in bush.	1903 Increase bush.
1	675,000	908,000	1,514,000	606,000
2	107,000	241,000	305,000	64,000
3	536,000	575,000	1,361,000	786,000
4	618,000	828,000	1,330,000	502,000
5	754,000	1,168,000	1,439,000	271,000
6	.....	.....	.....	.....
7	68,000	228,000	530,000	302,000
8	.....	.....	.....	.....
9	220,000	415,000	726,000	311,000
10	.....	.....	.....	.....
11	.....	.....	.....	.....
12	347,000	347,000	306,000	.....
13	58,000	58,000	65,000	7,000
14	.....	.....	.....	.....
15	72,000	72,000	72,000	.....
16	.....	3,000	3,000	.....
The Territories	3,455,000	4,843,000	7,651,000	2,849,000

* For description of Crop Districts, see under "Agricultural Statistics."

MALTING BARLEY FOR EXPORT.

During the year covered by this report several communications passed between Mr. Peter B. Ball, Canadian Government Agent at Birmingham, England, and this department with reference to the production in the Territories of high class barleys for export to England for malting purposes. Mr. Ball in this correspondence points out that most

of the malting barley imported into the United Kingdom comes from California. The United Kingdom imports within 30 and 40 millions of bushels of barley annually. Canada exported last year 626,006 bushels which was about equally divided between the United Kingdom and the United States. The State of California produced in 1902 about 30 millions of bushels of this cereal which closely approximates the production of the whole of the Dominion. There is statistical evidence to show that the demand for malting barley is increasing faster than the production and European brewers will no doubt soon be looking for sources of supply other than the present ones. There would seem to be no good reason why the Territories should not participate in any trade that may arise in this connection. The United Kingdom imports barley for two purposes—six-rowed for grinding and distilling, and two-rowed for brewing. The latter is the variety for which there is most demand and for which the highest prices are paid. Authorities agree that barley intended for malting purposes should possess the following characteristics: (1) The grain should be plump; this denotes that it has been well fed. (2) A sample of barley should be uniform in size, shape and colour. This insures uniformity of germination. (3) The grain should be pale lemon or a pale clean straw colour. A stained or discoloured appearance is often associated with damaged samples, and may be caused by heating in the stack. (4) The sample should be free from any disagreeable smell, such as is caused by unfavourable conditions during or subsequent to harvesting. (5) A wrinkled appearance is always appreciated in a sample of barley as it implies a proper degree of "maturation"—a term applied to the changes in the grain subsequent to cutting. In valuing a sample of malt a brewer is guided chiefly by these factors: (1) The amount of extract obtained from the sample; (2) its diastatic or sugar-producing capacity; (3) its physical condition. Special care is required in harvesting barley for malting purposes. It must be cut dead ripe and carefully stooked, the stooks being set north and south, so that each side will receive the same amount of sun. The ears should be allowed to become well matured and hardened by exposure to the sun and air before the crop is removed. In threshing the separator must be adjusted so as to avoid too close threshing which injures the ends of the grains causing them to become mouldy in malting. The variety known as Goldthorpe is a favourite with brewers in the north of England, but the Chevaliers are more extensively used in the south.

Some years ago a comprehensive series of tests was undertaken by the Dominion Government under the direction of Dr. Wm. Saunders, Director of Experimental Farms, with the object of ascertaining whether two-rowed barley, the only kind used by British brewers, of sufficiently good quality to bring the highest prices on the British market could be successfully produced in Canada. Seed was imported from England especially for this purpose, and careful trials were made at the various Experimental Farms, and also by individual farmers. The following shows the results attained at Brandon and Indian Head:

	Experimental Farm, Brandon, Man.		Experimental Farm, Indian Head, N.W.T.	
	Yield per acre	Weight per bush.	Yield per acre	Weight per bush.
Beardless	..	54½	27¼	55
California	.	..	..	..
Carter's Prize Prolific	.	54	..	..
Chevalier, Danish	27¾	56	12⅝	55
Chevalier, Danish Printice	..	55½	14	53½
Chevalier, Improved O & M	..	..	26⅝	53
Chevalier, Selected O & M	..	..	12	52
Early Minting	..	..	13⅜	53½
English Malting	27	53	23⅛	53½
Golden Melon Improved	..	54½	17¾	55
New Zealand	..	55½	23	54
Peerless White	..	54¾	18¾	52
Swedish	..	55	24½	55½
Thanet Improved	.	55	21⅛	52¾
Saale	..	..	19½	53

Individual farmers who made tests in the Territories reported as follows. The seed distributed was in lots of 2¾ to 3 lbs.

Carter's Prize Prolific.—Mr. John Smail, of Moose Jaw, had a yield of 100 lbs. which weighed 53 lbs. per bushel.

Danish Chevalier.—Mr. J. L. Hawke, of Medicine Hat, harvested a very bright and handsome sample of 57 lbs. weighing 56⅛ lbs. per bushel.

Trials of malting barleys have also been conducted at the Calgary Experimental Station; these, however, for reasons already indicated, have not been successful. Very satisfactory results have been attained at Indian Head, and the fact may be considered established that we can grow this class of cereal successfully and, owing to the richness of our prairie soil in the essential elements of plant food, particularly in potash, at a minimum cost. With regard to prices obtained for malting barley in the markets of the United Kingdom, Dr. Saunders in Central Experimental Farm Bulletin of April, 1890, says, respecting samples at the time submitted to English experts:

The opinions which have been obtained are those of some of the largest buyers and consumers of barley in Great Britain. The lowest figure named, 30s. per quarter of 448 lbs., is equal to 78 cents in England for the Canadian bushel of 48 lbs. Taking the average of all the quotations for all the samples we find the figure to be a little over 36s., which is equal to 94 cents for the Canadian bushel in England, while those who can grow barley which will receive the top price, 40s. to 42s., would have their grain sell in Great Britain at from $1.06 to $1.12 per Canadian bushel. From these figures must be taken the cost of transportation and the buyer's commission. A trial shipment of six-rowed barley to England was made by some buyers in Western Ontario in February last, when about 20,000 bushels was forwarded. This was taken from the neighbourhood of Toronto and delivered in Liverpool for 30 cents per 100 lbs. A second shipment of 18,000 bushels was sent early in March from north of Toronto, which cost 38 cents per 100 lbs. to deliver in Liverpool. From 18 to 19 cents per bushel would probably cover the cost of transportation from the producer to the consumer during the winter months, while 12 to 14 cents would be likely to cover the rates obtainable either to Liverpool or London during the period when navigation is open. Taking the average cost at 15 cents and allowing 3 cents additional for

commission and incidental expenses, this would leave the farmer on the basis of the lowest of the estimates given 60 cents here for the Canadian bushel; taking the average figure, it would be 76 cents, and on the higher estimates 88 to 94 cents.

The same authority in a recent communication to the department says:

The practical difficulty in the way of growing barley anywhere in Canada for Great Britain is that of keeping each lot separate. Some farmers will raise very good barley and others barley of very inferior quality. The buyers mixed these lots together, the result being that the price realised for the whole was governed by that of the poorest sample. This was not encouraging to the careful man and the shippers who bought the barley could not pay the price here which would be satisfactory to the farmers and at the same time realise a profit.

Some objections have been raised to the cultivation of two-rowed varieties of barley in the West owing to the fact that they are somewhat late in ripening and are therefore liable to incur damage from frost. There is little doubt that such a difficulty may be overcome by proper care in the selection of seed and careful systematic experiment, and in view of the possibilities in connection with this matter I would recommend that experiments with malting barleys be made a feature of the department's co-operative field trials.

VII.—TERRITORIAL INDUSTRIES.

FLOUR MILLING.

Section 5 of *The Agriculture Department Ordinance* imposes on the department among other things the duty of instituting inquiries and collecting facts and statistics relating to the manufacturing interests of the Territories. Hitherto the manufacturing interests of the Territories have been quite inconsiderable, but it is now evident that there will be considerable development within the next few years in certain lines of manufactures, especially those more closely connected with what must always prove to be the leading industry—agriculture. As the Territories produce annually vast crops of the finest quality of wheat for milling purposes it is naturally to be expected that the flour milling industry is one that is bound to assume considerable proportions in the near future, and it has therefore been thought well to give in the present report such statistics as it has been found possible to collect with regard to the present condition of the industry. There are twenty-seven modern roller process flour mills in the Territories in active operation with a total daily milling capacity of 2,950 barrels, or, in other words, the Territorial mills are capable, if run the whole year round at full capacity, of manufacturing 885,000 barrels of flour annually and using approximately four million bushels of wheat in the process. During the past year the total production was about 500,000 barrels from 2,260,000 bushels of wheat. 27,328 barrels were exported from the Territories west and 12,697 east, a total of 40,025 barrels. The industry employed 188 men. Apart from the general question of the advantage to the Territories of building up manufacturing industries of all sorts it may be well to point out briefly here the enormous economic gain to be derived from a policy of milling our wheat at home instead of exporting it as at present. In exporting, as the Territories did last year, some 12,000,000 bushels of wheat our farmers are practically making a present to the millers of Great Britain of about 90,000 tons of the most valuable stock food and are also disposing of large quantities of fertilising material by which North-West farms are so much the poorer. A reference to the subjoined table will help to establish these facts.

DIGESTIBLE and Fertilising Material in Wheat Offals.

Kind of offal	Digestible nutrients in 100 lbs.			Fertilising constituents in 1,000 lbs.		
	Protein	Carbo-hydrates	Fats	Nitrogen	Phosphoric acid	Potash
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Bran	12·9	40·1	3·4	....	....	....
Shorts	12·2	50·0	3·8	28·2	13·5	5·9
Middlings	12·8	53·0	3·4	26·3	9·5	6·3
Screenings	9·8	51·0	2·2	24·4	11·7	8·4
Scourings	12 6	....	2·4	....	....	....

There are several other directions in which the exportation of whole wheat operates to the disadvantage of a country, and these have been ably summarised by Mr. Charles Cranston Bovey of the Washburn-Crosby Co., of Minneapolis, in a paper entitled "The Fallacy of exporting wheat from the United States," contributed to the American Review of Reviews some time ago. "The exportation of wheat is detrimental to the farmer," says Mr. Bovey, "1. In the loss of cheap feed, which would enable him to raise cattle and compete more favourably in foreign countries. 2. In the loss in fertilisation of his fields, contingent upon cattle raising and diversified farming. To the miller: 1. In the loss of business by reason of the foreign miller grinding the wheat American millers should grind. 2. In the loss of profit by reason of the competition of foreign mills grinding the same wheat and producing bran and feed from that wheat at the lowest possible price. To the transportation companies: 1. In congestion of freight, with its accompanying extra expense of operation. 2. In loss of traffic of by-products incidental to the manufacture of flour. 3. In loss of traffic of by-products incidental to diversified farming. 4. In loss of continuous traffic of flour during the entire year at more favourable rates than wheat. To the country at large: 1. In the stunting of an industry, the product of which carries the name of the United States into nearly every market of the world. 2. In loss of wages to thousands of labourers. 3. In the loss of wider civilisation of the country, which comes from the development of an important industry."

One of the things the smaller western miller has to complain of is the fact that many Ontario millers are in the habit of grinding one-fourth Manitoba wheat with three-fourths Eastern fall wheat and putting the product on the market as Manitoba or North-West flour. This is an evil which in the absence of any satisfactory system of flour inspection it would be difficult to remedy.

BEET SUGAR INDUSTRY.

This is another industry that promises to be of very great importance in the West. It has been fully demonstrated that sugar beets of the highest quality can be successfully produced in Southern Alberta and the construction and actual operation of the Raymond Beet Sugar Factory—an illustration of which will be seen in Plate X—is but another tribute to the ability of our American friends to know a good thing and to take advantage of it. A sample of the sugar turned out of the factory as the result of last year's operations was received in the department and, without expressing an expert opinion, I would say that it has all the appearance and taste of the best granulated sugar produced by the British Columbia or Eastern factories which have hitherto supplied the Territories with this staple. About 3,000 acres of beets were under cultivation last year in the vicinity of Raymond, which was only enough to give the factory a short run. Some preliminary difficulties still remain to be overcome, especially with regard to the supply of labour necessary to thoroughly cultivate and harvest the beets, but the surmounting of these should not prove beyond the powers of those who have planted this industry in the Territories.

VIII.—COLONISATION.

The settlement of the country is proceeding with satisfactory rapidity and no remarks are called for here in connection with the subject. The usual statistics are given below.

XXII.—IMMIGRATION Statistics—North-West Territories.

Yr.	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Total
1898	133	166	1,042	1,702	1,129	1,124	809	308	349	228	300	173	7,463
1899	2,624	2,506	1,348	2,729	2,520	633	523	357	450	514	375	196	14,775
1900	151	240	2,415	4,115	2,205	2,807	1,297	995	645	795	422	163	15,750
1901	171	427	2,669	2,915	2,316	2,370	994	2,402	1,101	1,151	1,262	732	18,510
1902	642	866	4,056	5,296	4,183	3,755	2,217	2,719	2,332	3,531	2,823	1,195	33,615
1903	834	1,190	5,979	11,614	8,201	6,568	3,914	3,687	2,939	3,146	2,502	1,130	51,704

XXIII.—HOMESTEAD Entries—North-West Territories.

AGENCY	1898	1899	1900	1901	1902	1903
Alameda	177	507	792	658	3,381	2,817
Yorkton	165	397	514	470	2,372	5,794
Prince Albert	143	513	359	601	1,637	2,894
Battleford	....	8	4	18	487	1,198
Regina	475	888	985	1,318	4,129	7,268
Lethbridge	195	286	347	605	1,269	1,534
Edmonton	623	936	1,309	1,699	2,733	3,163
Red Deer	108	637	785	890	1,331	1,466
Calgary	123	262	679	939	1,707	1,916
The Territories	2,009	4,334	5,774	7,195	19,046	28,050

XXIV.—SALE and Grants of Lands—North-West Territories.

—	1898	1899	1900	1901	1902	1903
	Acres	Acres	Acres	Acres	Acres	Acres
Dominion Government sales.	Unkn'n	24,500	46,000	74,169	96,208	136,002
Can. Pac. Railway sales	174,493	237,068	313,558	309,857	2,145,027	1,055,151
Acquired under homestead regulations	321,440	693,440	923,840	1,151,200	3,047,360	4,488,000
Canada North-West Land Co	.....	.....	.....	.....	515,017	2,259,204
Land scrip located	.....	.....	.....	.....	.....	13,886
Total	.....	955,008	1,283,398	1,535,226	5,803,612	7,952,243

XXV—Statement of Land Sales in Manitoba and the Territories by Railway Companies and the Hudson's Bay Co.

	Hudson's Bay Co		C. P. R. Co.		M. & S.W.R. Co.		QuA'p. L.L.&Sask.		Calg. & Edm. R.		Can. Nor. R. Co.		G.N.W.C.R. Co.		Total.		
	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	
1893	..	....	93,184	$ 295,288	14,164	$ 57,559	1,603	not given	11,260	not given	.. ...	. .....	.....	. . .	120,211	$ 352,847	1893
1894	7,526	$ 48,225	43,155	131,628	6,312	28,003	640	not given	11,035	not given	..	. . .	.. .	.. ....	68,668	207,856	1894
1895	4,431	23,209	55,453	176,950	5,623	22,330	2,391	not given	46,815	not given	. . . .	.. ...	.	.. ..	114,713	222,489	1895
1896	9,299	52,410	66,624	220,360	21,254	88,568	286	not given	10,553	not given	.. ....	.. .	.	... . . .	108,016	361,338	1896
1897	10,784	52,277	135,681	431,095	63,800	234,644	2,524	not given	9,436	not given	. . .	.....	.....	. .	222,225	719,016	1897
1898	62,000	310,000	242,135	757,792	106,473	363,982	22,534	not given	15,481	not given	.....	. .....	.. .	... . . .	448,621	1,431,774	1898
1899	56,875	274,625	261,831	814,857	58,019	199,158	61,030	$ 178,517	24,738	$ 53,335	.....	.....	.....	.. ..	462,494	1,520,792	1899
1900	70,196	352,631	379,091	1,152,836	133,507	437,449	18,932	53,974	46,653	128,256	.. .	.....	... .	... . .	648,379	2,145,146	1900
1901	82,305	399,804	339,985	1,046,665	59,749	214,953	22,266	74,810	116,719	352,037	...	.....	... .	. ...	621,027	2,088,269	1901
1902	269,577	1,412,332	1,362,478	4,440,500	206,411	713,365	39,835	147,365	323,494	1,033,396	.....	... ..	..	.. ... .	2,201,795	10,746,958	1902
1903	330,046	1,939,804	2,260,722	8,472,250	250,372	699,210	843,900	1,476,900	231,890	909,600	183,736	$ 631,503	128,435	$522,490	4,229,011	14,651,757	1903
Tot	903,042	$4,866,317	5,240,340	$17,940,221	925,684	$3,059,521	1,015,941	$1,931,566	847,984	$2,476,624	183,736	$ 631,503	128,435	$522,490	9,245,162	$31,428,242	Tot

IX.—MISCELLANEOUS SERVICES

PROTECTION OF GAME.

Report of the Chief Game Guardian.

The number of names on the list of game guardians for the past year was 171 exclusive of the North-West Mounted Police, the members of which force have given valuable service in bringing offenders to justice. The change in the law, generally approved by sportsmen, making it illegal to shoot females of the deer tribe resulted in several prosecutions in which the guilty parties were heavily fined. A number of cases for infractions of other sections of the Ordinance were also brought to a successful issue.

During the six years in which the shooting of big game was prohibited in South-Eastern Assiniboia, the deer increased considerably, and in places became almost domesticated, so that when, during the couple of weeks in which shooting was permitted this season, many of these animals were shot a feeling of animosity was engendered against the sportsmen.

Disappointment was felt and freely expressed by those interested in the survival of our feathered game when they found that in the new Ordinance the practice of shooting ducks on their arrival in the spring was again sanctioned. Many ducks at that time are heavy with eggs and some nests are formed and partly filled before the 5th of May. The exclusion of the goose from the list of game birds worthy of protection is also commented on adversely. The feeling in favour of protection of the birds in their breeding season is growing rapidly stronger throughout Canada and the United States, many Provinces and States having already fallen into line in a co-operative effort to make spring killing illegal.

Seventeen game licences were issued to non-residents and one permit to collect for scientific purposes was granted.

Ignorance of the game law is much more common than a knowledge of it, and as a step towards greater publicity the Ordinance might with advantage to the public be brought to the attention of the pupils in the schools, as provided by law in one of the States south of us where the game laws must be read in the schools at least twice a year. On the whole a much greater interest is being displayed in the matter of game protection.

PRAIRIE FIRES.

The fire guardian service, being wholly voluntary and unremunerated, cannot be said to be very effective, and the large majority of convictions secured were through the efforts of the North-West Mounted Police. To this force also is due the thanks of the public for its very effective help in fighting the many disastrous fires which swept over various sections

of the country. In the month of May considerable damage was done to the growing timber in North-Eastern Assiniboia, and several settlers about the Beaver Hills lost buildings and stock. In Northern Alberta, also, spring fires raged causing severe losses to the people and suffering to stock by the destruction of feed. In October, prairie fires, said to have started from the trains, were very destructive. A number of settlers about Pincher Creek lost everything about their places. Near Claresholm in November the people had a hard fight to control a fire which was swept along by a heavy wind, but were much helped by one of the Government firebreaks running east and west. Between the main line of the Canadian Pacific Railway and the Red Deer from about Tilley towards the mouth of the river a fierce fire raged which was prevented from working east by a Government fireguard between the railway and the river. North of the Crow's Nest line, between Winnifred and Medicine Hat, was also swept by fire, and the ranges north of Maple Creek and Swift Current are reported more or less burned over. Twenty-five new appointments to the position of fire guardian have been made during the year.

X.—PUBLIC HEALTH.

OUTBREAKS OF CONTAGIOUS AND INFECTIOUS DISEASES.

As may be expected with a rapidly increasing population outbreaks of infectious diseases are becoming more frequent in the Territories but not to any undue extent. With the exception of typhoid and smallpox, the largest increase in the number of cases has taken place in town municipalities, a fact which may be attributed to the concentration of population, to the insanitary condition of many of the smaller towns, and to some extent to the arrival of foreign immigrants at railway points to which several outbreaks have in the past been directly traceable. None of the outbreaks which have come to the department's attention during the past year call for special notice with the exception of one of a bad type of scarlet fever at Battleford early in the year, and which resulted in several deaths. The North-West Mounted Police have in a tactful manner rendered useful service in connection with the administration of The Public Health Ordinance. The principal danger to the public in connection with the spread of infectious and contagious diseases is the existence of a class of people who wilfully, or through ignorance, refuse or neglect to procure medical advice when disease visits their households. When cases of this sort are brought to the attention of the department prompt measures are taken to impress upon such persons that, while the law does not compel them to provide professional advice, it does require them to take proper steps to protect the public from the possible consequences of their ignorance or folly and that failure to do so will subject them to a substantial fine and perhaps imprisonment.

A good deal of misconception exists with regard to the functions of health officers outside of municipalities. Whenever infectious disease breaks out in a district the department is sure to receive requests to have such and such a doctor appointed a health officer. Such requests are invariably met with the statement that The Public Health Ordinance gives medical practitioners attending infectious cases full powers to take whatever steps are necessary for the protection of the public and that therefore the appointment of special officials for this purpose is unnecessary. It may be pointed out that the health officers referred to in Section 7 of The Public Health Ordinance are only intended to be appointed temporarily for special purposes to act under the direction of the department and have no functions or authority apart from those conveyed in the department's instructions. As a matter of fact no appointments of this nature have been made during the past year.

The supply of the departmental bulletin "The Duties of the Public with respect to Contagious Disease," which has proved most useful in disseminating information on this important matter, has become completely exhausted and a new and revised edition is now in the press. The usual statistics are subjoined.

SMALLPOX EPIDEMIC.

The work of dealing with this disease still continues in the hands of the Federal authorities and is under the immediate supervision of Dr. James Patterson, whose report is submitted herewith.

Report of Dr. Jas. Patterson, Dominion Quarantine Officer.

I have the honour to say that since my last report smallpox has appeared at or near the following points in the Territories, namely: Lacombe, Raymond, Mayton, Crooked Lake, Indian Head, Regina, Wolseley, Yorkton, Onion Lake, Moose Jaw, South Qu'Appelle, Cardston, Medicine Hat, Calgary, Maple Creek, Swift Current, Pelletier's Lake, Duck Lake, Halcro, Saskatoon, Old Man's Creek, Star, Jack Fish Lake, Bresaylor, Battleford, Macleod, Saddle Lake, White Fish Lake, Floating Stone, Verna and Evarts.

At Lacombe, Raymond, Mayton, Indian Head, Wolseley, Regina, Yorkton, Moose Jaw, South Qu'Appelle, Cardston, Calgary, Old Man's Creek, Verna and Evarts the cases were amongst white English speaking people. At the other points the parties affected were half-breeds.

A considerable number of cases have occurred amongst Indians upon several of the Reserves; but these were not under my control.

The type of the disease has been fairly severe yet not fatal.

Today I only know of cases existing at Verna and Calgary.

During the greater part of the time the distribution of free vaccine, to all who asked for it and promised to use it, was continued and a large amount was thus distributed. Recently it is only given municipal councils, boards of health, school trustees and medical men in charge of existing cases.

When you consider the number of persons protected by vaccination years ago; the number protected by successful vaccination with this free vaccine; and the number protected by having this comparatively mild type of smallpox; the people of the Territories, as a whole, must be classed as a fairly well protected community. Yet, I would advocate the continuance of the requirement of successful vaccination as a preliminary to admission to the public schools. No doubt, during the coming year, cases will occur amongst immigrants from the south of us, where the disease still prevails, where little attention is paid to the prevention of its spread and where a large unvaccinated population exists.

JAMES PATTERSON.

XXVI.—DEATHS by Epidemic Diseases 1899-1903.

CAUSE OF DEATH		TOTAL	MALE	FEMALE
Typhoid fever	1899	14	9	5
	1900	19	9	10
	1901	15	8	7
	1902	17	11	6
	1903	48	38	10
Smallpox	1899	2	....	2
	1900	....	....	....
	1901	5	2	3
	1902	6	1	5
	1903	....	....	....
Measles	1899	11	4	7
	1900	5	4	1
	1901	9	4	5
	1902	62	30	32
	1903	10	4	6
Scarlatina	1899	10	4	6
	1900	10	2	8
	1901	14	9	5
	1902	114	54	60
	1903	127	64	63
Whooping cough	1899	5	3	2
	1900	8	3	5
	1901	16	9	7
	1902	42	18	24
	1903	25	13	12
Diphtheria and croup	1899	21	11	10
	1900	41	20	21
	1901	32	15	17
	1902	99	57	42
	1903	61	34	27
Influenza	1899	16	6	10
	1900	17	8	9
	1901	11	6	5
	1902	7	4	3
	1903	18	11	7
Tuberculosis and scrofula	1899	99	54	45
	1900	109	52	57
	1901	118	65	53
	1902	118	54	64
	1903	139	75	64
Other epidemic diseases	1899	9	4	5
	1900	1	....	1
	1901	7	3	4
	1902	3	2	1
	1903	2	1	1

COMPARATIVE Statement of Deaths from Epidemic Diseases.

—	1899	1900	1901	1902	1903
Deaths from epidemic diseases	187	210	227	468	291
Deaths from all causes	759	937	1,065	1,558	1,681
Deaths from epidemic diseases per 1,000 of all causes	246·37	224·11	213·14	300·38	173·11

XXVII.—CONTAGIOUS and Infectious Diseases in Rural Districts and Municipalities (Cases reported).

—	Diphtheria					Scarlatina					Typhoid					Measles					Chickenpox					Smallpox					Tuberculosis				
	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total	Jan.-Mar.	Apl.-June	July-Sept.	Oct.-Dec.	Total
Rural Districts	53	49	48	75	225	165	102	66	88	421	14	14	73	49	150	10	1	11	2	24	7	6	16	5	34	137	29	16	5	187	2	12	19	8	41
Municipalities	14	25	27	42	108	110	91	18	41	260	2	..	21	9	32	8	79	12	3	102	4	4	2	5	15	18	18	1	4	41	.	2	..	2	4
The Territories	67	74	75	117	333	275	193	84	129	681	16	14	94	58	182	18	80	23	5	126	11	10	18	10	49	155	47	17	9	228	2	14	19	10	45

XXVIII.—MORTUARY Statistics, 1903.

GENERAL DISEASES,	Totals	Certified by doctor	SEX		BORN IN					AGE									MONTHS										
			Males	Females	Canada	United States	Great Britain	Other countries	Not Stated	Under 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 65	65 and over	Not stated	January	February	March	April	May	June	July	August	September	October	November	December
Number of column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I—COMMUNICABLE (EPIDEMIC DISEASES.)																													
1. Typhoid fever	48	48	38	10	22	4	13	6	3	.	2	2	22	15	4	3	.	.	7	6	.	1	5	2	3	4	9	5	2	4
2. Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles	10	7	4	6	7	2	..	1	.	4	6	.	..	..	.	.	...		.	1	1	2	3	2	1	.	.	.	.	.
4. Scarlet fever	127	105	64	63	97	9	5	16		2	61	52	8	2	1	1	..		18	17	12	19	19	16	10	2	4	3	3	4
5. Whooping cough	25	12	13	12	23	..		2	.	18	6	.	..	.	1	.	..		1	2	1	2	7	1	4	3	2	.	2	..
6. Diphtheria and croup	61	50	34	27	41	6	3	10	1	3	21	27	9	.	1	.	.		6	10	5	5	3	10	4	.	5	3	4	6
7. Influenza	18	10	11	7	13	...	3	2	.	3	7	.	1	..	..	1	6	.	4	3	7	2	..	.	1	..	.	..	..	1
8. Other epidemic diseases	2	1	1	1	1	1	..	...	.	.	1	1	..	.	.	..	.	..	.	..	.	.	..	.	1	1	..	..	.	..
Total	291	233	165	126	204	22	24	37	4	30	104	82	40	17	7	5	6	.	36	39	26	31	37	31	24	10	20	11	11	15
II—OTHER GENERAL DISEASES.																														
1. Pyemia and septicemia	6	4	1	5	3	.	3	...	.	2	...	1	.	1	1	1	.		2	.	2	2	..	..	.		..	..	..	..
2. Malaria fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Tuberculosis and scrofula	139	80	75	64	98	15	11	13	2	1	12	18	43	28	12	18	7		14	16	12	12	15	7	12	11	14	10	8	8
4. Siphilis	1	1	1	...	1	...	.	...		1	..	.	..	.	.	..	.		.	.	1	.	..	..	..	..	..	..	..	..
5. Cancer	20	16	6	14	7	..	7	6		.	.	..	.	2	.	10	8		1	1	3	2	2	2	..	2	.	3	3	1
6. Other malignant tumours	.	..	.	..	...	...	...	...	.	..	..	..	..	..	..	..	..		.	.	.	..	..	..	..	.	..	..	..	..
7. Rheumatism, acute & chronic	10	10	6	4	8	..	1	1	.	.	1	2	2	.	1	2	2		2	3	.	..	..	..	2	1	1	1	..	..
8. Gout	1	1	1	..	..	..	1	..		..	..	..	..	..	..	..	1		1	..	..	..	..	..	..	..	..	..	..	..
9. Diabetes	3	3	2	1	...	1	2	..	.	.	..	.	1	.	1	.	1	..	..	.	1	.	.	.	..	.	1	..	1	
10. Other general diseases	8	5	5	3	2	1	2	2	1	.	1	2	1	..	1	3	.	..	..	..	2	..	4	1	.	1	..	..	..	..
11. Alcoholism, acute and chronic	6	6	6	...	.	1	4	...	1	.	.	.	1	1	2	2			.	.	1	.	1	.	2	..	1	..	.	1
Total	194	126	103	91	119	18	31	22	4	4	14	23	48	32	18	36	19	..	20	20	22	16	22	10	16	15	16	15	11	11

LOCAL DISEASES.

III—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SENSE.																															
1. Encephalitis	2	2	2	.	2	.	..	.		1	.	1	.	.	..	.		..		.	1	..	.	.	.	1	.	..	..	.	
2. Simple meningitis	20	20	12	8	13	5	2	..		9	4	2	2	1	..	..	2	..	2	1	3	..	2	2	1	4		3	2	..	
3. Epidemic cerebro-spinal meningitis	5	5	4	1	4	..	1			1	.	3	1	.	.	..	.	..	3	..	.	.	.	..	.	..	..	..	..	..	2
4. Congestion and hemorrhage of the brain	12	11	5	7	5	..	6	1	..	.	1	.	2	1	1	4	3	..	.	..	3	2	1	..	1	3	2	.	.	.	
5. Softening of the brain	5	5	4	1	1	2	1	..	1	.	..	1	1	..	1	2	.	.	1	2	1	..	.	..	..	..	..	1	..	..	
6. Paralysis without specified cause	7	3	5	2	2	1	1	3	..	1	1	..	..	.	..	2	3	..	1	1	.	.	..	.	1	1	1	.	1	1	
7. Insanity	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	.	.	..	..	..	..	.	.	1	.	.	..	
8. Epilepsy	6	3	4	2	1	1	1	2	1	1	..	1	..	2	1	..	.	1	1	..	1	.	..	..	..	1	.	.	1	2	
9. Convulsions (not puerperal or infantile)	1	..	..	1	..	..	..	1	.	..	..	.	..	..	..	1	..	..	.	..	.	..	..	..	..	1	.	..	.	..	
10. Infantile convulsions	39	9	20	19	37	2	.	.	.	32	6	1	.	.	.	.	.	.	5	1	3	6	2	2	2	4	1	..	8	5	
11. Other nervous diseases	13	10	9	4	8	1	..	4	..	3	3	3	1	1	2	.	.	.	1	1	6	.	1	2	.	.	1	1	.	.	
Total	111	69	66	45	73	12	13	11	2	48	15	12	7	5	5	9	9	1	14	6	18	8	6	6	5	15	6	5	12	10	
IV—DISEASES OF THE CIRCULATORY SYSTEM.																															
1. Pericarditis	...	...	.		...	..	.	.	.	..	..	..	..	..	..	.	.	..	..	1	.		.	..	..	.	..	..	..	..	
2. Endocarditis	1	1	1	.	...	.	1	..	..	..	..	..	..	..	..	..	1	..	..	1	.	.	.	..	..	.	..	..	..	..	
3. Organic heart disease	55	37	38	17	20	6	17	10	2	3	1	3	9	4	5	18	12	.	6	6	4	3	4	4	2	6	4	6	6	4	
4. Angina pectoris	2	2	2	.	...	..	1	1	.	..	..	..	..	..	..	..	2	..	1	..	.	..	.	1	.	.	..	.	..	..	
5. Diseases of the arteries, atheroma, aneurism, etc	5	5	4	1	1	..	3	1	.	..	.	..	..	..	..	3	2	..	..	2	2	.	..	..	..	..	1	.	..	..	
6. Other diseases of the circulatory system	5	5	3	2	2	1	..	..	2	..	..	1	..	1	.	3	.	.	..	..	1	1	2	1	..	..	.	.	..	..	
7. Diseases of the sympathetic system	...	...	..	..	...	..	..	.	.	.	.	.	..	..	.	.	.	..	..	.	..	..	.	.	..	..	.	.	..	..	
Total	68	50	48	20	23	7	22	12	4	3	1	4	9	5	5	24	17		7	9	7	4	6	6	2	6	5	6	6	4	

Mortuary Statistics—Continued.

Number of column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
V—DISEASES OF THE RESPIRATORY SYSTEM.																														
1. Acute bronchitis	35	24	18	17	34	..	..	1	.	24	8	2	..	..	..	1	..	..	6	6	5	1	5	2	2	2	3	1	1	1
2. Chronic bronchitis	5	3	2	3	1	.	2	2	..	1	.	..	1	1	..	..	2	..	1	1	1	1	..	..	..	..	..	.	1	..
3. Broncho-pneumonia	16	16	10	6	13	1	1	1	..	5	7	2	..	.	..	1	1	..	.	2	3	3	3	1	..	..	2	1	..	1
4. Pneumonia	61	47	30	31	34	4	8	12	3	12	8	6	6	7	7	11	4	.	9	4	8	6	13	7	.	3	3	4	2	2
5. Pleurisy	14	14	8	6	6	1	4	2	1	1	..	1	3	1	3	4	1	..	2	..	1	2	2	1	2	1	.	..	1	1
6. Congestion of the lungs (including pulmonary apoplexy)	13	4	6	7	9	2	.	2	..	3	3	3	2	.	1	1	..	..	1	.	.	2	2	1	1	1	1	3	.	1
7. Asthma and emphysema	5	5	3	2	4	..	..	1		..	..		.	..	1	4	..	..	.	..	..	..	1	.	1	..	1	..	..	2
8. Other diseases of the respiratory system	19	14	12	7	14	1	1	2	1	2	4	7	3	1	1	1	..	..	7	3	1	1	..	1	.	3	1	..	1	1
Total	168	127	89	79	115	9	16	23	5	48	30	21	15	10	13	23	8	..	26	16	19	17	26	13	6	10	11	9	6	9
VI—DISEASES OF THE DIGESTIVE SYSTEM.																														
1. Diseases of the pharynx	4	4	..	4	4	..	..	.	.	..	2	1	..		1	..	.		.	..	..	.	..	..	..	2	1	1	..	..
2. Ulcer of the stomach	8	8	3	5	4	1	..	3	..	..	.	..	5	1	1	..	1	..	.	.	.	1	2	1	2	1		1	.	..
3. Other diseases of the stomach (cancer excepted)	21	15	9	12	18	1	1	1	..	15	1	1	.	.	2	2	.	..	1	2	1		2	2	1	1	6	1	2	2
4. Infantile diarrhœa and gastro-enteritis (cholera infantum)	69	50	41	28	56	3	6	4	.	45	22	..	2	.	.	..	..	..	1	2	2	2	3	3	4	24	16	5	6	1
5. Diarrhœa and enteritis (not infantile)	11	7	5	6	4	2	3	2	.	1	1	2	..	2	1	3	1	.	..	1	1	.	2	2	1	2	1	..	1	..
6. Dysentery	7	6	5	2	2	1	2	2		1	.	1	1	..	1	3	..	.		.	2	.	.	1	..	1	1	1	1	.
7. Hernia and intestinal obstruction	13	12	12	1	6	2	3	2	.	3	2	4	.	1	..	3	.	.	..	1	2	1	..	1	2	2	2	2	..	..
8. Other diseases of the intestines	14	11	6	8	8		2	3	1	1	5	2	1	1		4	..		2	2	1	2	2	2		1	1	..	..	1
9. Diseases of the liver	17	14	12	5	6	1	9	1		1	1	1	1	1	1	8	3	.	1	1	..	1	2	1	2	1	1	2	1	4
10. Peritonitis (not puerperal)	14	11	6	8	8	3	2	1	.	.	3	2	4	2	2	1	.	..	1	1	2	2	2	.	1	3	..		.	2
11. Iliac abscess (typhilitis, perityphilitis, appendicitis)	21	20	15	6	15	4	..	1	1	..	..	7	10	1	2	1	..		2	6	2	1	2	..	2	1	..	..	2	3
Total	199	158	114	85	131	18	28	20	2	67	37	21	24	9	11	25	5	..	8	16	13	10	17	13	15	39	29	13	13	13

VII—DISEASES OF THE GENITO-URINARY SYSTEM.																																
1. Acute nephritis	4	4	4	..	3	1	.	.	..	..	..	3	.	..	..	1	..	..	.	..	.	1	..	.	.	..	2	1	..
2. Bright's disease	34	30	21	13	12	6	3	11	2	..	2	5	4	3	5	11	4	..	5	4	3	2	4	4	2	3	1	2	1	3
3. Other diseases of the kidneys and adnexa	2	1	2	..	2	..		..	.	.	.	..		..	..	1	1		.	.	1	..	.	..	..	..	.	.	..	1
4. Vesical calculi	...	...	..	..	...	.	.	..	..	.	.	..	..	..	.	.	..	..	..	..	..	.	.	.	.	..	.	.	..	..	..
5. Diseases of the bladder	3	3	3	..	2	..	1	..	..	.	..	..	.	.	..	.	3	..		1	.	.	1	1	..	..	..	..	..	
6. Diseases of the male genital organs	2	2	2	.	1	..	1	..	..	.		..	.	1	..	.	1	..		.	..	.	.	1	..	1	.		..	..
7. Metritis	...	..	..	..	...	.	.	..	..	..	..	..	.	..	..	.	..	.	.	..	..	.	..	..	..	..	.	..	..	..
8. Other diseases of the uterus	..	.	..	..	...	.	..	.	..	.	.	.	.			..	..		..	..	..	..	.	.	.	..	.	..	..	..
9. Ovarian cysts and other ovarian tumors	...	...	..	..	...	.	..	..		..	..	..	.	..	.	..	.			..	.		..	.	.	..	.	..		..
10. Other diseases of the female genital organs	3	2		3	...	.	1	1	1	..	.	..	1	1	1	.	..		..	.	1	.	.	..	1	..	1	..	..	.
Total	48	42	32	16	20	7	6	12	3	..	2	8	5	5	6	13	9	.	5	5	5	3	5	6	3	4	2	4	2	4
VIII—PUERPERAL DISEASES.																																
1. Puerperal septicemia	16	11	..	16	8	2	1	3	2		..	..	3	9	4	..	..	.	2	1	..	2	2		1	3		3	..	2
2. Puerperal albuminuria and convulsions	3	3	.	3	1	.	..	..	2	..	.	..	2	..	..	..	.	1	1	.	.	2	..	.	.	..	..		..	..
3. Other accidents of pregnancy	20	15	..	20	5	..	4	10	1	..		..	4	6	8	2	.	.	3	2	3	1	..	..	1	2	3		2	3
4. Puerperal diseases of the breast	...	...	.	..	..	..	..	..	..	..	..	..	..	..	.	.	..	..	..	..	..	..	.	..	..	..	.	.	..	.	
Total	39	29	..	39	14	2	5	13	5	..	.	..	9	15	12	2	..	1	6	3	3	5	2	.	2	5	3	3	2	5
IX—DISEASES OF THE SKIN AND CELLULAR TISSUE.																																
1. Erysipelas	4	4	3	1	2	..	2	..	..	2	..	..	..	.	..	.	2	..		..	.	..	3	.	.	..	..	.	..	1
2. Other diseases of the skin and its adnexa (cancer excepted)	1	1	1	..	.	..	1	..	..	..	.	..	.	..	.	..	1	..	..	1	..	..	.	.	.	.	..	..		..
Total	5	5	4	1	2	..	3	..	..	2	..	..	..	..	..	.	3	..	.	1	..	..	3	..	..	..	.	..	..	1

Mortuary Statistics—Continued.

Number of column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
X—DISEASES OF THE LOCOMOTOR SYSTEM.																														
1. Diseases of bones and joints	2	2	1	1	...	..	1		1	.	.	.	2	..	.	.	..	.	..	.	.	.	1	1	..	..	.	.	.	..
2. Amputation (for unspecified disease)	.	.	.	..	.	...	..	.	.	.	..		.	..	..	..	....		..	.	.	.	..	.	..	.	..	..	.	..
3. Other diseases of locomotive organs	..	..	.	.	..	.	..	.	.	.	..	..	..	.	..	.			.	..	.	.	..	..	..	.	..	.	..	.
Total	2	2	1	1	...	.	1		1	.	..	.	2	..		..	..	..	.	..	.	.	1	1		..	..	.	..	..
XI—MALFORMATIONS, DISEASES OF INFANCY, DISEASES OF OLD AGE.													.	.																
1. Still births	12	10	6	6	12	..	.	..	..	12	..	.	..	.	.	..	..		..	.	.	1	1	1	1	2	2	2	.	2
2. Congenital debility and malformations	89	46	50	39	89	.	..	.	..	89	.	.	.	..		.	..	.	15	7	13	8	6	4	2	7	7	10	6	4
3. Other diseases of infancy	38	16	21	17	33	.		2	3	30	6	2	..	.	..	..	..	.	2	3	4	7	9	3	.	1	4	.	2	3
4. Senile decay	60	24	27	33	9	2	27	22	.	.	..	.	..		.	.	60	.	2	8	9	4	4	8	.	8	1	3	6	7
Total	199	96	104	95	143	2	27	24	3	131	6	2	..	..	.	.	60	.	19	18	26	20	20	16	3	18	14	15	14	16
XII—SUICIDE.																														
1. Poison	3	3	3	..	1	.	1	.	1	..	.	..	1	..	2	.		..	..	1	..	.	1	.	1	.	..	.	.	.
2. Strangulation or hanging	1	.	1		..	.	.	1	.		..	..	.	.	.	1	.		.	.	..	1	.	.	.	.	..	.	.	.
3. Asphyxia	1	1		1	1	..	..	..	..	1	..		..	.	.	.	..		.	..	..	..	.	.	1	.	..	.	..	..
4. Drowning	...	...		.	...	..	..	..	..				..	.	.	.	..		.	..	..	..	.	.	.	..	..	.	..	..
5. Firearms	4	3	2	2	1	1	1	1	.	.	..		.	3	1	.	..	.	1	..	1		.	.	1	..	..	..	..	1
6. Cutting	...	...	.	.	...	..	..	..	..	.	.	.	.	..	.	..	..	.	..	..	..	.	..	.	.	..	..	.	.	..
7. Other methods	3	3	3	..	2	1	..	.	.	.	.		.		1	2			.		..	1	..	.	..	.	.	2		..
Total	12	10	9	3	5	2	2	2	1	1		.	1	3	4	3			1	1	1	2	1	..	3		..	2	..	1

XIII—ACCIDENTS.																															
1. Fractures and dislocations	14	14	12	2	3	2	4	4	1	..	..	..	7	1	1	2	3	..	1	1	1	1	3	1	..	..	2	2	2	..
2. Gunshot	5	2	5	..	1	..	..	3	1	..	..	.	1	2	1	1	.	..	.	2	..	..	..	..	..	1	..	2	..	..
3. Lightning	4	1	4	.	4	..	..	.	..	..	..	..	2	2	..	..	..	..	.	.	..	.	.	.	3	1	..	.	..	.
4. Drowning	18	6	18	..	7	..	6	4	1	.	2	1	5	5	4	1	..	..	..	..		3	2	3	3	2	4	..	..	1
5. Sunstroke and freezing	4	1	4	..	1	2	..	1	.	.	1	2	..	..	..	1	..	..	..	1	..	.	2	.	1	..	..	.	..	..
6. Riding or driving	3	1	3	..	1	.	1	.	1	.	..	1	2	..	1	..	1	..	..	.	1	..	..	2	.	.	..	.	..	..
7. Railways	4	2	4	..	1	..	1	1	1	.	..	..	2	2	..	..	..	..	..	..	..	..	..	2	.	..	..	1	1	..
8. Burns and scalds	11	7	6	5	6	2	2	1		..	4	4	.	2	.	..	1	..	.	..	..	4	..	..	2		2	..	2	1
9. Homicide	1	1	1	.	...	..	..	1	..	..	..	.	1	..	..	..	.	..	..	..	..	..	..	..	1	.	..	..	..	..
10. Accidental poisoning	5	4	3	2	3	..	..	..	2	.	1	.	2	2	..	..	..	..	..	.	..	2	2	..	.	..	..	..	1	..
11. Accident by occupation (employees)	6	5	6	..	. .	1	1	4	.	..	.	.	..	1	3	2	.	.	1	..	..	..	..	..	2	3	.	..	..	..
12. Other causes	18	9	16	2	9	2	2	4	1	..	2	2	4	4	2	1	3	..	2	..	2	3	.	2	2	2	1	2	2	..
Total	93	53	82	11	36	9	17	23	8	..	10	10	24	21	12	8	8	..	4	4	4	13	9	10	14	9	9	7	8	2
XIV—ILL-DEFINED AND UNSTATED CAUSES.																															
1. Dropsy	5	3	1	4	2	1	..	2	..	..	..	1	..	1	1	1	1	..		1	1	.	..	2			1	..	.	..
2. Tumors	1	1	.	1	...	..	..	1	..	..	..	.	.	.	.	1	.	.	.	..	..	..	..	..	..	.	.	1	..	..
3. Other ill-defined causes	54	13	19	35	29	7	5	11	2	18	7	5	4	5	8	6	1	.	5	1	5	3	6	7	7	5	3	5	5	2
4. Not stated	192	...	105	87	143	4	3	41	1	78	59	21	10	6	5	6	6	1	24	27	8	20	20	18	18	21	6	9	7	14
Total	252	17	125	127	174	12	8	55	3	96	66	27	14	12	14	14	8	1	29	29	14	23	26	27	25	26	10	15	12	16
TOTAL ALL CAUSES.																															
1903	1,681	1,017	942	739	1,059	120	203	254	45	430	285	210	198	134	107	162	152	3	175	167	158	152	181	139	118	157	125	105	97	107
1902	1,558	921	875	683	1,033	134	151	195	45	463	297	198	140	124	90	122	115	9	103	130	159	165	169	156	145	107	118	97	107	102
1901	1,065	604	623	442	717	65	147	95	41	315	135	102	86	103	82	141	88	13	93	75	98	114	113	94	85	92	87	87	62	65
1900	937	545	504	433	650	39	120	107	21	296	144	86	95	72	72	97	68	7	70	65	74	106	77	95	78	85	111	50	67	59

VITAL STATISTICS.

As will be seen from the accompanying tables the number of births registered during 1903 exceed the number for the previous year by over 600. Marriages show an increase of 427 and deaths of only 123, which must be regarded as an eminently satisfactory condition of affairs. Much of the value of the department's vital statistics is lost owing to the fact that no satisfactory estimate of the population of the Territories can be formed at the present time, and therefore there is no basis for comparison with other countries or provinces in the matter of births, marriages and deaths. During the year it was found necessary to establish a new registration division, called Lacombe, which was carved out of the divisions of Wetaskiwin and Innisfail. Mr. H. McDougall, who had been for many years registrar for the Moose Jaw Division, resigned his position and was replaced by Mr. Isaac L. Woodley. Mr. D. Mandin, registrar at Duck Lake, also resigned and was replaced by Mr. Moise Courchene. During the year 57 searches of records were made and 40 certified extracts were issued. The usual statistics are presented herewith.

XXX.—VITAL Statistics, 1903.

DIVISION	Births			Marriages	Deaths		
	Male	Female	Total		Male	Female	Total
Banff	11	24	35	13	3	2	5
Batoche	18	24	42	31	18	14	32
Battleford	26	29	55	14	48	14	62
Calgary	167	173	340	178	122	84	206
Cannington, E.	4	9	13	..	....	1	1
Cannington, W.	35	32	67	14	9	4	13
Cardston	32	17	49	16	5	1	6
Edmonton	89	75	164	61	45	43	88
Good Spirit	....	3	3	2	1	....	1
Grenfell	73	66	139	39	35	33	68
High River	29	26	55	15	9	6	15
Indian Head	41	45	86	25	16	16	32
Innisfail	68	63	131	41	24	36	60
Kinistino	8	8	16	11	5	4	9
Lacombe	75	64	139	75	19	18	37
Lethbridge	116	100	216	51	31	17	48
Macleod	46	40	86	34	15	18	33
Maple Creek	24	28	52	11	5	8	13
Medicine Hat	79	67	146	41	38	34	62
Mitchell	27	20	47	14	16	17	33
Moose Jaw	65	62	127	58	25	15	40
Moosomin	27	43	70	36	17	16	33
Pelly	11	9	20	22	3	2	5
Prince Albert, E.	9	18	27	16	16	8	24
Prince Albert, W.	35	19	54	15	8	9	17
Qu'Appelle, N.	58	64	122	45	41	25	66
Qu'Appelle, S.	36	37	73	21	11	6	17
Regina	101	92	193	107	62	63	125
Rosthern	135	105	240	55	32	40	72
St. Albert	88	71	159	35	34	14	48
Saltcoats	73	77	150	32	30	16	46
Sheho	42	25	67	3	6	5	11
Souris, E.	39	42	81	25	9	6	15
Souris, W.	54	46	100	28	20	10	30
Strathcona	77	79	156	45	35	31	66
Victoria	220	228	448	108	30	24	54
Wetaskiwin	60	77	137	46	24	29	53
Weyburn	28	28	56	39	14	16	30
Whitewood	63	54	117	24	12	12	24
Wolseley	44	42	86	35	17	16	33
Yorkton	105	87	192	40	32	16	48
The Territories 1903	2,338	2,218	4,556	1,521	942	739	1,681
The Territories 1902	2,069	1,883	3,952	1,094	875	683	1,558
The Territories 1901	1,593	1,504	3,097	869	623	442	1,065
The Territories 1900	1,369	1,322	2.691	827	504	433	937
The Territories 1899	1,251	1,137	2,388	671	405	354	759
Increase over 1902	269	325	604	427	67	56	123

BIRTHS by Months.

Month	Male	Female	Total	Month	Male	Female	Total
January	181	201	382	July	191	178	369
February	198	168	366	August	212	204	416
March	210	211	421	September	184	215	399
April	195	178	373	October	212	172	384
May	197	179	376	November	181	178	350
June	195	174	369	December	182	160	342

DEATHS of Infants.

Year	To 1,000 births	To 1,000 deaths of all ages
1899	90·45	284·58
1900	109·99	384·19
1901	101·71	295·50
1902	117·91	299·10
1903	94·38	255·80

BIRTHS and Ratio of Births to Deaths.

Year	Births of males to 1,000 births of females	Ratio of births to deaths
1899	1,100	3·14
1900	1,035	2·87
1901	1,059	2·90
1902	1,098	2·54
1903	1,054	2·71

MARRIAGES by Months.

Month	No.	Month	No.
January	149	July	118
February	180	August	103
March	90	September	108
April	97	October	103
May	72	November	158
June	161	December	182

MARRIAGES.—Religious Denominations of Contracting Parties.

Officiating Clergymen	BRIDEGROOMS: Denominations	BRIDEGROOMS: Totals	BRIDES: Presbyterians	Methodists	Anglicans	Roman Catholics	Lutherans	Greek Catholics	Baptists	Mennonites	Latter Day Saints	Moravians	Evangelical Ref'm'd	Congregationalists	Jewish	Others	Not Stated
391	Presbyterians	327	211	40	32	11	19	...	13	1	2	...	1	1	..	5	...
330	Methodists	262	63	148	19	4	4	...	21	...	...	...	...	.	...	3	...
211	Anglicans	231	25	30	150	12	5	..	8	...	...	...	..	1	...	...	...
255	Roman Catholics	266	4	2	5	236	8	6	..	...	...	...	..	...	...	4	1
88	Lutherans	160	6	7	4	6	126	2	1	.	...	3	1	1	...	3	...
78	Greek Catholics	85	..	...	.	2	...	83	...	.	..	...	...	...	...	...	...
87	Baptists	60	8	10	8	.	1	.	30	..	...	...	...	1	...	2	...
34	Mennonites	37	..	1	...	...	1	...	...	34	...	.	1	...	...	.	...
23	Latter Day Saints	24	1	...	.	..	...	...	.	...	23	...	...	.	..	..	...
11	Moravians	4	...	...	...	...	3	...	...	...	...	1	.	...	...	..	...
6	Evangelical Ref'md	8	.	...	...	1	...	...	...	...	...	..	7	...	...	...	...
1	Congregationalists	5	3	1	1	...	...	...	..	...	...	...	...	...	...	..	...
2	Jewish	2	..	...	...	...	...	...	...	...	...	...	...	.	2	..	...
4	Others	48	5	14	4	5	1	1	3	...	...	.	...	1	..	14	...
..	Not Stated	2	.	..	..	1	...	..	1	..	...	...	...	...	...	...	...
1,521	Totals	1,521	326	253	223	278	159	92	77	35	25	4	10	5	2	31	1

MARRIAGES.—Origins of Contracting Parties.

	BRIDEGROOMS	BRIDES: English Speaking countries: Canada	United States	United Kingdom	Totals	Others: German	Austrian	Scandinavian	French	Others	Totals	Half-breeds	Indians	Totals
Eng. Speak'g countries.	Canada	444	82	66	592	9	8	4	3	10	34	....	....	626
	United States	44	96	11	151	10	1	5	2	3	21	....	....	172
	United Kingdom	102	41	121	264	4	2	3	....	5	14	....	....	278
	Totals	590	219	198	1,007	23	11	12	5	18	69	....	....	1,076
Others	German	4	8	2	14	24	5	....	....	5	34	...	...	48
	Austrian	...	3	....	3	2	204	....	....	8	214	....	...	217
	Scandinavian	4	9	....	13	...	1	23	....	....	24	....	....	37
	French	1	....	1	2	...	....	...	3	1	4	...	...	6
	Others	10	9	9	28	1	6	2	....	83	92	....	....	120
	Totals	29	29	12	70	27	216	25	3	97	368	....	....	438
	Half-breeds	....	....	....	....	....	....	....	...	....	....	2	...	2
	Indians	....	....	....	....	....	....	...	...	....	....	....	5	5
	Totals	635	248	210	1,077	50	227	37	8	115	437	2	5	1,521

Mean Marriage Age		Males.	Females.
	1903	28·49	22·90
	1902	26·99	23·03
	1901	28·75	23·03
	1900	29·20	23·26
	1899	29·54	23·49

TERRITORIAL HOSPITALS.

The attention of that portion of the public which is interested in the work of these necessary and excellent institutions is respectfully directed to the very interesting report of the Inspector of Territorial Hospitals subjoined hereto. Two new hospitals—Pincher Creek Memorial and Moosomin General—were during the year added to the list of those entitled to Government aid. It will be seen from the statistics given below that there was a considerable increase in the number of patients treated as compared with 1902 but the amount of charity work done was considerably less It is satisfactory to note that the institutions in most cases appear to be conducted economically notwithstanding the high prices of many necessary supplies.

XXXI.—Hospital Statistics.—I.

Name of hospital	Town located in	Approximate area served in square miles	Total cost of buildings	Total cost of furnishing	Cost per patient per day						No. of patients 1903	No. of days treatment	Value of charity work done 1903
					1898	1899	1900	1901	1902	1903			
			$	$	$	$	$	$	$	$			$
Victoria	Regina	36,435	10,000 00	2,700.00	..	1 88	1.75	1.73	1.40	.85	238	5,256	1,242.00
Medicine Hat General	Medicine Hat	45,170	30.583 45	7,136 44	.88	.91	1.16	1.22	1.17	1.05	555	8,525	4,288.49
Victoria	Prince Albert	114,000	6,023.86	1,097.16	....	2.23	1.21	1 69	1.66	1.10	90	2,208	1,458.48
Edmonton Public	Edmonton	50,000	10,274.76	3,072.24	..	..	. .	1.23	1.05	.89	364	5,006	744.89
Edmonton General	"		28,785.52	5,174.71	1.49	1.49	1.00	.70	.85	.38	470	8,892	219.35
Holy Cross	Calgary	25,000	36,466.14	7.206.12	1.20	1 44	1.28	.91	.89	.61	623	9,499	Nil
Calgary General	"		30,990.78	4,700.35	..	.99	94	1.02	.89	.83	644	10,853	1,068.83
Galt	Lethbridge	25,000	23,435.18	7,419.81	.88	1.52	1.46	1.41	1.08	1.20	262	6,552	1,141.38
Macleod General	Macleod		4,433.15	2,712 08	.98	.98	1.92	1.22	1.29	1.19	154	1,823	348.70
Queen Victoria	Yorkton	8,735	6,320.10	1,738.90	.. .	....	.	..	1.78	.66	172	2,440	Nil
Pincher Creek Memorial	Pincher Creek		1,655.17	538.65	...	..	. ..	....	....	1.25	58	1,194	530.92
Moosomin General	Moosomin		Rented	516.08	....	.	...	....	....	1 80	88	1,347	1,515.67
Territories 1903		304,340	188,967.94	44,012.54	....	....	....	....	..	....	3,719	63,595	12,558.71
Territories 1902			171,060.69	38,708 26	....	...	. .	...	.. .	...	2,659	46,359	20,091.89
Territories 1901			161,049.78	34.326 49	....	..	...	..	....	....	2,646	43,014	19,196.57
Territories 1900			153,729.89	27,946 22	....	. ...	..	....	. .	. ..	2,142	38,542	33,344.62

Hospital Statistics.—II.

EXPENDITURE 1903	REVENUE						LIABILITIES				
		Contributions from									
Cost of maintenance	On hand January 1, 1903	N.W.T. including Govt. grants	E. Canada and other sources	Pay patients	Outside nursing	Total	Open accounts	Interest bearing notes in banks	Mortgages on real estate	Rate of interest paid	Total indebtedness Dec. 31, 1904
$	$	$	$	$	$	$	$	$	$		$
4,488.40	9.12	2,056.02	Nil	3.246.40	Nil	5,311.54	2.947.39	499.00	4.592.59	.	8.038.98
9,367.34	15.27	5,119.05	301 10	5,084.35	212 00	10,731.77	. . . .	628.12	2,000.00	6	2,628.12
2,690 53	2,465.19	3,499.90	80.00	1,232.05	Nil	7,277.14	1,414.45	. . . .	. . . .	.	1,414 45
4,473 35	174.52	1.657.35	68.35	3,728.46	Nil	5,628.68	648.09	2,040.30	7,500.00	6	10.188.39
4,185.50	831.91	2,459.80	1,676.85	3,966.15	Nil	8,934.71	831.18	....	22 004.56		22,835.74
5.878.72	3,414.09	2,822.58	Nil	7.195.80	Nil	13,432.47	3,200.00	. .....	....	.	3,200.00
10.093 61	20.40	3,199 50	196.09	9,024.78	40 25	12,481.02	937.00	. ... .	12,000.00	..	12,937.27
8,401.12	Nil	2,696.05	140.25	7,259.74	Nil	10,096.04	.....	. .....	. .	..	....
2.185 65	Nil	1,418.41	54.25	1,836.95	Nil	5,495.26	.	... .	. .....	.	... .
1,691 76	1,143.31	1,628.46	715.63	2,022.50	Nil	5,509.90	375.06	.. ..	.. . .	..	375.06
1,501.92	192.19	1,081.75	34 48	971.00	Nil	2.279.42	.....	... ...	.. .. .	..	... .
2,467 47	Nil	2,519.20	Nil	951.80	10.00	3,481.00	.... .	.. ..	.. ..		.. ..
57,425.37	. ....	30,158.07	3,267.00	46.519.98	262.25	90,658 95	10,353.44	3,167.42	48,097.15	..	61,618.01
48,866.21	... .	24,599.43	6,449.01	28,779.32	441.30	66,747 02	8.548.46	3,534.77	39,541.13	..	51,552.24
47,665.50	..... .	27,650.31	2,666 77	26,849.69	714.15	94,096.64	4,179.84	13,846.12	37,124.76	..	55,150.72
47,168.70	..	24.519.15	5.021 71	18,762.95	612.75	48,916.56	5,152.17	42,390.06	2,500.00	..	50,042.23

INCURABLES.

The following patients were cared for in the Medicine Hat Hospital under the standing arrangement with this department: Robt. Reid, Chas. Morse, Chas. Larsen, Jas. Condon, May Scott, Mrs. Fales, Geo. Stump.

The first five in the above list are more particularly referred to in the report of the Inspector of Territorial Hospitals. Chas. Larsen was discharged on May 7th, being found able to do light work. Mrs. Fales was, at the end of the year, removed to Brandon asylum, and Geo. Stump died of apoplexy in November, leaving four in hospital at the end of 1903.

Report of Dr. Kennedy, Inspector of Hospitals.

THE GALT HOSPITAL, LETHBRIDGE.

I visited and inspected the Galt Hospital on Sunday the 15th March. There were 17 patients in the institution, and it is interesting to note that of this number fourteen were surgical cases, thus confirming a remark of mine in a previous report that probably more surgical work is done in this hospital than any of the Territories. None of the cases call for comment, excepting that of August Woods, who has been an inmate since September 29th, 1900. This man was admitted, suffering from a tuberculous disease of the spine (Potts' disease), and has been treated in the general ward. His condition has steadily improved during the past year, and although the disease (tuberculosis) has shown itself in the tissues of the foot his physician holds out good prospect of his recovery. I do not consider that he is in any way a source of danger to the other patients.

The hospital itself was scrupulously neat and clean, the patients appeared to be well looked after, and there were no complaints. It is exceedingly well equipped and is doing excellent work, patients coming to it from other parts of the Territories and from British Columbia. Since my last report an *x* ray machine has been installed, thereby adding very much to the facilities for doing good work. It is the only public hospital in the Territories that can boast of this feature. It also has a first-class modern ambulance, which was secured at a cost of $500.00, and which has unquestionably alleviated a lot of suffering among the large number of accident and surgical cases which are brought to the hospital.

The Galt Hospital, although operating under an Ordinance, has been up to the present run as a semi-private institution. It was founded by the late Sir Alex. Galt, and, although it has always received patients from the general public, it was designed primarily to afford hospital facilities for the employees of the Alberta Railway and Coal Company, and the officials and shareholders of that company have always had its entire management. The general public had no voice in the direction of its affairs, and apart from an annual grant from the town, and assistance derived through the ladies' aid, the public did not contribute to its support. The company have found, however, that a hospital cannot be expected to be a paying institution and, in accordance with a general

desire, is seeking to have its charter amended so as to allow a representation of the public on its directorate. This will bring it more in line with other institutions; it will receive a large measure of general public support, and I have no doubt that its maintenance will not be a matter of any great difficulty. It should not be so, for I find that during the half year ending 31st December, 1902, considerably less than ten per cent. of the patients were nonpaying ones. Furthermore, the rates have recently been raised from $2.00 to $2.50 for private wards and from $1.00 to $1.50 for public wards.

The hospital has no maternity wards, or no maternity department in connection with it, but this will probably follow as the institution gets on its feet under the new conditions. It has provision for infectious cases occurring in the hospital and the provision is effective. The town of Lethbridge looks after all other infectious cases itself, in a separate building, employing the nurses, and providing medical attendance in the person of the health officer.

It is a matter for congratulation that the Galt Hospital will be a permanent public institution, for, while it has been indispensable in the past, the large and rapid increase in the population between Lethbridge and the boundary will greatly enlarge its sphere of usefulness and make it even more indispensable in the future.

QUEEN VICTORIA COTTAGE HOSPITAL, YORKTON.

This hospital was opened for patients on the 21st of October, 1902 and has consequently been in operation five months. Its inception was stimulated by, if it was not largely owing to, a contribution of $3,000.00 from the Lady Minto Cottage Hospital Fund, and the hospital is being administered in connection with the Victorian Order by a board of five directors who are elected by the subscribers. It is maintained by voluntary contributions, by fees from patients and by the Government grants.

The town of Yorkton has a population of about 1,000. There are about 6,000 each of Galicians and Doukobors in the neighbourhood and these, with a large number of American, English and Canadian settlers, make a population approaching 20,000 people in the country which is tributary to the hospital. The need of such an institution is therefore evident. The building itself is a very substantial and attractive one, standing in its own grounds of three acres on an eminence to the south-west of the town. It is on a stone foundation, is built partly of brick and partly of wood, has two stories and a basement, and at present accommodates sixteen patients—public and private. The back half of the second storey is unfinished, and when completed will increase the accommodation to twenty. It has a very good operating room which, for one in use so short a time, is exceedingly well equipped. It also boasts of a morgue which I think the directors would be well advised to appropriate for some other purpose. Its greatest present want is a bath-room, without which any hospital is very seriously handicapped, but this will probably be remedied within a reasonable time as it is the intention of the directors to divide off the unfinished part of the second storey into a maternity ward, a tuberculosis ward and a bath-room.

The hospital was erected at a total cost of $5,380.00 including $100.00 for the land which it occupies, and with the furnishings, etc.,

the total assets at the end of 1902 were $8,661.11. The fact that the liabilities are only $1,269.66, and that the directors expect to wipe this off during the current year, is a tribute alike to their collecting ability and to the enterprise and generosity of the people of the community.

I may say, that in spite of some defects, the general plan of the hospital building has so commended itself to me that I have written to Ottawa for a plan of it, and I think that with a few changes it would serve as an excellent model for other small hospitals which are being built throughout the Territories. When so much has been done in so short a time it may seem invidious to point out defects, but I think the board of directors might well direct their attention to, as soon as possible, instituting a system of water supply, or rather water distribution. They have at present a good well and a tank. It would not cost a large amount to construct a tank in the attic, which, in the meantime, could be kept supplied by a force pump. Then with a hot water attachment in the range and a system of pipes and taps, any ward or room in the house could have its own supply of hot and cold water and the work of the staff would be immeasurably lightened. In connection with this it would then be easily possible to have a bath-room, the want of which must be a serious drawback. Another want which is bound to be felt very much is a ward or wards which can be isolated and which can be used for the treatment of cases of an infectious or contagious nature, occurring in the hospital, such as erysipelas. I have advised the directors of this and feel assured that they will make provision for it at the earliest possible moment.

At the date of my inspection on March 22nd I found everything neat and clean and in good order about the hospital in spite of the fact that there had been some difficulties in respect to obtaining sufficient assistance in the domestic part of the staff. The staff consists of the matron and a probationer besides the cook, who also acts as a general servant. With regard to the probationer it is, I understand, a feature of the Victorian Order work, and it will be found alluded to in my general report on Training Schools.

There were four patients in the hospital on the day of my visit and they were all proper subjects for hospital treatment. They were all paying patients, one of them occupying a private ward.

This hospital presents the unique appearance of having so far paid its own way and as such a result is as desirable as it is at present unusual, I shall take the opportunity of relating how it has been done. Partly it is doubtless due to careful and economical management, the staff salary list only amounting to $51.00 a month. The hospital had been in operation for exactly five months and during that time had cared for forty-one patients, the aggregate number of hospital days being 525. Of these days every one had been paid for, excepting 13 days owing by one patient and for this the directors held the patient's note which they expected to realise. The directors have established a rule that all patients must pay, that is, if the patient has not the money when he goes out he gives his note for the amount which he owes, and this is collected as soon as he is in a position to pay. Of course, in time they are likely to accumulate a stack of worthless notes, but up to the present the system has worked well and the directors seem to have confidence in its future success. At any rate if it does not keep pauper cases of real necessity from applying for admission, which is the only

danger I see, it does not pauperise the community, and has the advantage of being what is called a " business proposition."

With the present energetic secretary, a live board of directors, and the excellent start which has been made, this hospital should do excellent work and have a most useful and honourable career.

MEDICINE HAT GENERAL HOSPITAL.

This, the oldest institution in the Territories, was visited on March 16th, and was found to be continuing in its long and honourable career of usefulness. There were 25 patients on the register on the date of my visit, distributed as follows. The incurables are :

1. Robert Reid, age 85, senility,
2. Charles Morse, chronic gastritis and hypertrophied prostate,
3. James Congdon, ataxic paraplegia,

who have all been alluded to in former reports.

4. Charles Larsen, paraplegia. This man was the victim of a hand car accident on the Crow's Nest Pass Railway, near Macleod, in June, 1902, which resulted in a partial fracture of the vertebræ and injury to the spine. He was removed from the Macleod hospital to Medicine Hat in December, 1902, at the request of the directors. He has paralysis of certain muscles of the lower extremities and also of the bladder, but he is able to walk around slowly with the assistance of a stick, and as he is anxious to do something for himself an effort is being made to get him a situation on the railway, which might be within the range of his limited capabilities.

5. The remaining incurable, Mary Scott, is a girl of about twenty, who has been an epileptic since she was nine years old. Her faculties are very much clouded and I should judge that it would not be a very great while before she will be a fitter subject for an asylum than for a hospital

A pleasing and noticeable feature of hospital work here is the extent to which advantage is taken of the maternity cottage, there being, as noted before, no less than five patients and one baby occupying the building on the date of my visit. I am satisfied that this factor in connection with the hospitals of the Territories is a means of saving life and much needless suffering, and it is encouraging to note that the people are becoming educated to the advantage offered by maternity wards.

The patients in the general wards call for no special remark. They are all proper subjects for hospital treatment, and there are no complaints. One case of tuberculosis from Winnipeg was occupying a private ward and was improving

The ticket system is still in vogue at this hospital and I am informed by the medical superintendent that it pays when a sufficient number are sold. Last year 231 were disposed of.

Since my last visit the interior of the hospital has been considerably improved but the accommodation for patients remains about the same.

It is gratifying to note that the financial position of the hospital has, if anything, improved during the past year. There is now a total indebtedness of only $3,293.50 against the property, being a decrease of $136.34 during the past year, while its assessed value (an admittedly low one) is $25,000.00. This, employing as it does a resident medical officer,

and having a salary list of $3,832.10, denotes careful and prudent financial management.

The staff is composed of a medical superintendent, a lady superintendent, first assistant and eight nurses in process of training. This coming year it is intended to erect a new and commodious nurses' house, separate from the main building, and which, besides being a great boon to the nurses, will increase the accommodation and facilities of the hospital.

MOOSOMIN HOSPITAL.

The Moosomin hospital was inspected on Thursday, March 19th. It differs from other hospitals, in that it has no charter but it is incorporated under The Companies Ordinance, under the name of The Moosomin General Hospital Company, Limited, the reason for this being that the incorporators were unwilling to wait for a session of the Legislature to obtain the necessary powers to enable them to commence operations. At the date of my visit it had not been placed on the schedule of hospitals receiving aid from the Government, but this was to be done on the receipt of some information which had been asked for and which had just been forwarded to the department.

Regarding the necessity for a hospital at Moosomin, there is none between Regina on the west and Brandon on the east, Yorkton on the north and the international boundary on the south. The country in the immediate vicinity of Moosomin is well settled and the Kirkella branch will open up a large country to the north-west, so that the hospital at Moosomin will probably draw its patients from a population of from fifteen to twenty thousand people. There is no question, therefore, but that it will have a wide field of usefulness before it.

At the date of my visit operations were being carried on in a small rented building and, of course, the facilities were restricted. There is one ward downstairs, which contains four beds, and one upstairs to accommodate two, the rest of the building being required for the staff and administration purposes. The nursing staff at present is composed of the matron, but necessity will soon force the directors to add another nurse, it being very difficult, if not impossible, for one to do satisfactory work in such a position.

There were only two patients in the hospital at the date of my visit, but it had been previously, and, indeed, for a good part of the time during which it had been in operation, taxed almost to its capacity. Of these two patients one was a woman who had been admitted suffering from tonsilitis but who was also of unsound mind. It was the intention of the directors to have her removed as soon as possible.

From the opening of the hospital to the date of my visit there had been 282 hospital days, of which 56, or about twenty per cent., had not been paid for.

The receipts from all sources had been $1,119.35 of which, roughly speaking, some $600.00 had been expended on capital account.

Everything must have a beginning, and the citizens of Moosomin are to be commended for their efforts to provide hospital facilities where they are really much needed. But I think the directors would be well advised, if they would direct all their energies towards the erection within a reasonable time of a building of their own. A good hospital, besides affording facilities to the medical men for doing better work,

becomes a source of local pride and is much better supported than one for which apologies have to be made.

VICTORIA HOSPITAL, PRINCE ALBERT.

I made my first official inspection of this hospital on Friday, March 27th. It has been in operation since November, 1899, and in that time, like most hospitals, has had a varied career of ups and downs. Its present home is a rented house, which is not well fitted for the purposes of a hospital but which has been made in a moderate way to serve the most pressing needs of the district. Its capacity is seven beds, six of which were filled at the time of my visit, and its staff consists of a matron, a trained nurse and a probationer. Notwithstanding the primitiveness of the surroundings and the unsuitability of the building for hospital purposes, I found everything scrupulously clean and neat and the patients being well cared for. There were no complaints and I am satisfied there was no cause for them. Of the six patients, one an old man, named John McDonald, who was being treated for frozen fingers, was a person of unsound mind, and it was necessary for him to have a special attendant every night. He is really a subject for asylum treatment, and on my suggestion the directors are about to take the necessary steps to have him transferred. Another, also an old man, B. Magee by name, is suffering from an incurable disease (Reynaud's) but owing to local prejudices the authorities will probably allow him to remain as a patient for his remaining days. The other four are all proper subjects for hospital treatment.

The capacity of the hospital is as follows: Private ward, 1; semi-private ward, 2; public ward, 4; but these are all used as necessity arises.

The area served by the hospital is a very large one and includes many distant settlements — Carlton, Melfort, etc. The town has a population of 2,193. A large element of the population is composed of French half-breeds, and their well known racial proclivity of taking no thought for the morrow is responsible largely for the fact that the Prince Albert hospital is able to boast, or deplore, the fact that its non-paying patients form a larger percentage of their total than perhaps any hospital in the Territories. This, while commendable in one way, has a serious business aspect and will probably for some time to come render the maintenance of the institution a cause for anxious thought and sustained effort on the part of the charitably disposed people of the district. Another feature which adds to the difficulties of the situation is the fact that among the half-breeds and Indians released from treaty tuberculosis is the prevailing disease, and it is questionable whether, even with the improved facilities in contemplation, a general hospital at Prince Albert would be able to care for them. To my mind there is a very fair ground for asking the Dominion Government to regard this as a special case calling for special treatment. Such would or might be in the form of a separate pavilion for tuberculosis, built in the hospital grounds, run in connection with the hospital, but supported financially by the Dominion Government.

The people of the district have been most generous in their support of the hospital, and besides maintaining it for the past year and a half, have accumulated a surplus approaching $3,000.00 in cash with which to

erect a new building. Land has been purchased to the extent of two acres at a beautiful site overlooking the town. Plans have been prepared and the tenders let for a brick building of two stories, basement and attic, and capable of accommodating some sixteen patients. This building will cost in the neighbourhood of $7,500.00 when complete and will go a long way towards solving the hospital problem for Prince Albert.

The town and the hospital are fortunate in having a most valuable and efficient ladies' aid society, without which it is difficult to imagine how it could make both ends meet. The cost of maintenance per patient per day is $1.85 which is owing largely to the small number of patients the hospital has been able to accommodate. That the new hospital will not come any too soon is evidenced by the fact that during February five patients had to be refused admission, a fact which is to be deplored. The hospital does not admit consumptive cases.

THE CALGARY GENERAL HOSPITAL.

I visited the Calgary General Hospital on Wednesday, March 31st, and found it practically filled to overflowing, there being thirty-one patients in the institution. While I was there admission had to be refused a patient from Red Deer. The patients were distributed as follows: Men's general ward, 15; women's ward, 3; men's private ward, 2; women's private ward, 4; isolated ward, 1; the rest being maternity cases in the maternity hospital, which is a separate building.

This hospital also is doing a very large amount of work and additions are now contemplated which will materially increase its capacity. The present building, which is used as a combined nurses' home and maternity hospital, will be used in the future altogether as the nurses' home, and a new maternity hospital will be built on the hospital grounds. It is also in contemplation to erect a hospital for infectious diseases at a cost of from $12,000.00 to $16,000.00, but this is a matter which, in my opinion, should be dealt with wholly by the City Council. I think it may be taken for granted that it is a sound principle, and one which is now universally recognised, that a hospital for infectious diseases is a measure for the public safety, a protection to the public against epidemics and, from a purely business point of view, a good investment for any town or city. A town or city should, therefore, build and equip an infectious hospital and it may or may not be run in connection with one of the general hospitals, as may seem desirable. If the plans which I have seen are carried out Calgary will be in the position of having a first-class and up-to-date hospital for infectious diseases.

I found the Calgary General Hospital, as usual, neat and clean, and the patients were all fit subjects for hospital treatment and there were no complaints.

The staff at present consists of the matron, one graduate, eight nurses in training, and three probationers. An idea of the work done by this hospital can be gathered from the following statistics for 1902: Total number of hospital days, 8,136. Total number of patients registered, 542; of which there were—private ward, 149; maternity, 48; isolated, 67; there were besides 409 outdoor patients.

HOLY CROSS HOSPITAL, CALGARY.

I visited and inspected this hospital on Tuesday, 31st March. Since my last visit the hospital has been enlarged by the addition of a wing, 35 feet by 24 feet, four stories high, built of brick with stone basement and giving additional accommodation in the shape of a general ward, and an isolated ward in the basement. Notwithstanding the increased accommodation I found that the hospital had been taxed to its capacity during nearly the whole winter. It provides at present accommodation for 47 patients, distributed as follows: Male patients, private, semi-private and public wards, 24; women patients, 11; isolated cases, 12. The isolated wards have been used for infectious diseases, as scarlet fever, of which there has been rather an epidemic in Calgary during the past autumn and winter. As a consequence of the increased accommodation offered by the new wing the old isolated wards at the top of the building, which were so objectionable and which I reported against on previous occasion, have been done away with and, after being thoroughly cleansed and renovated, are now used as part of the general hospital. The new isolated wards, while still leaving something to be desired, are a great improvement upon the old and it is now possible to treat cases of an infectious nature there without entering the part of the building devoted to general purposes, or without any danger to other patients. I might point out, however, that it is not desirable that any infectious disease, such as scarlet fever, measles, diphtheria, and so on, should be treated at any general hospital and isolated wards should only be for the purpose of receiving infectious cases occurring in the hospital itself.

It is proposed in the near future to build an additional wing on the other side of the building, which will increase the number of beds by about thirty. This may not be done, however, for a year or two. At the time of my visit there were thirty-one patients in the hospital, all of them being fit subjects for hospital treatment. They all appeared to be well cared for, and there were, as usual, no complaints. The wards, and in fact everything about the hospital, were scrupulously clean, neat and bright. The operating room has been improved in several ways; it is better equipped than formerly; is now in charge of a surgical nurse, and, as a consequence, much more surgical work is done here than in former years.

The examination of the books revealed the fact that they were properly kept and the patients were admitted and discharged in accordance with the regulations.

During the past year there were 499 patients registered, and of these 23 per cent. were free patients, 8 per cent. paid in part, and the remainder paid in full.

The Holy Cross Hospital is doing good work and, partially owing to the large number of private wards and the comparative lowness of the rates ($10.00 a week) it will always be extensively patronised.

THE EDMONTON GENERAL HOSPITAL.

I visited and inspected the Edmonton General Hospital on Saturday and Sunday, April 4th and 5th, and found that it, in common with most of the other hospitals through the Territories, was doing a large amount of work owing to the rapid increase in the population. There were

thirty-one patients on the register at the time of my visit, and they were all cases fitted for hospital treatment. There has been little or no change in this hospital since the date of my last visit. The wards were as usual clean and well kept, the patients contented, and there were no complaints.

The register had not been posted up to date and a certain amount of slackness was to be noted in the completion of the entries, a fault which of course is due to the authorities, but concerning which the attending physicians are not wholly free from blame. I am satisfied, however, that the spirit of the regulations is being observed and that the patients are now admitted and discharged in accordance with the rule laid down by the department.

With the very large numbers of people which are now crowding into the Edmonton District, the accommodation of this hospital is bound to be taxed to its utmost, and although it is a matter with which I perhaps have little concern, I think that the authorities may very wellincrease their fees so as to bring them more in line with other hospitals. The fees here are lower than in any other place in the Territories, being 50 cents for general ward, 75 cents for semi-private ward and $1.50 for private. The other hospitals almost without exception charge $1.00 to $1.50 a day for public wards, and $2.00 to $2.50 a day for private wards. There were 64 pauper patients treated here during the half year ending December 30, 1902.

EDMONTON PUBLIC HOSPITAL.

I visited and inspected the Edmouton Public Hospital on Saturday and Sunday, April 4th and 5th. There has been no change in this building since the date of my last report, except some minor ones in the furnishings and interior. There were fifteen patients under treatment on the date of my visit, and all were cases requiring hospital treatment.

The wards were neat and clean and there were no complaints from the patients. This hospital has not been able to cope with the amount of work offering it and has frequently had to refuse admission to patients on account of lack of accommodation. The hospital situation at Edmonton indeed is such that I may be pardoned for alluding to it a little more fully.

Owing to the large and rapid increase in the population, an increase which will doubtless continue for some time owing to the contemplated railway development and to the further opening up of the north country, this hospital will be increasingly unable to supply the wants of the district. In this connection I may state two other facts, one that the people of Strathcona are contemplating the erection of a hospital at that point at a cost of something like $10,000.00; the other, that there is practically no accommodation either at Strathcona or Edmonton for infectious diseases. While appreciating the fact that it is not unnatural that a town the size of Strathcona should desire to have a hospital of its own, it appears to me that their efforts in the cause of suffering humanity would be very much more advantageously used if they would combine with the people of Edmonton in building a hospital which would fill the requirements of the situation both there and at Strathcona, and at the same time be a credit to both places. It goes without saying that a large and well equipped hospital is infinitely better than two small ones. It is better for the public, on whom the

burdens will fall more lightly; it is better for the patients, who will receive the advantage of up-to-date facilities; and it is better for the medical men, who would be in a position to do improved work. The fact of the present Edmonton Public Hospital being still largely unpaid for is a difficulty, but this might possibly be obviated by having it taken over by the town as a hospital for infectious diseases. That the building would not be too large for the purpose in a very short time I am quite convinced.

The City Council of Calgary is now submitting a bylaw to the people to raise $10,000.00 for an isolated hospital, and it is apparent to anyone who knows the conditions that Edmonton will need the accommodation as well as Calgary.

It is sincerely to be hoped that in spite of the difficulties in the way, the public spirit of the people of Edmonton and Strathcona will enable them to overcome them and to evolve from the present situation one which will be more in keeping with the necessities of the district.

The Edmonton Public Hospital is doing a large amount of valuable work and, while indispensable to the community, is having rather up-hill work from a financial standpoint, its note indebtedness being still between $8,000.00 and $9,000.00. Apart from the grant of $900.00 the first year, it has received no assistance from the Edmonton Town Council, a fact which is not in line with the attitude of other towns towards their charitable institutions.

The total number of patients treated during the past year was 245, and of these some 38 are to be classed as nonpaying ones, a percentage of over fifteen.

ST ALBERT HOSPITAL.

As I did not receive any communication from the authorities of this hospital, as arranged during for my visit to Regina, I did not make the inspection of this institution. It is to be assumed that in accordance with their wishes, as previously expressed, they no longer desire that the hospital should be retained on the list of those receiving aid from the Government.

MACLEOD GENERAL HOSPITAL.

I visited and inspected the Macleod General Hospital on the 8th April. There were five patients in the institution on the date of my visit and all were fit subjects for hospital treatment.

The wards were neat and clean. There were no complaints and the books were properly kept. There has been no change in this hospital since the date of my last report. The conditions of water supply and heat are still inefficient and detract seriously not only from the comfort of the patients but also from the working ability of the staff. It is to be trusted that the directors will see their way clear at a very early date to amend this state of affairs.

A cottage hospital for infectious diseases has recently been erected by the municipality of the town of Macleod, a short distance from the hospital building and it is expected will be run in connection with the general hospital. This is a very distinct advance and should make the conditions of hospital work easier in the district.

VICTORIA HOSPITAL, REGINA.

I visited and inspected the Regina Victoria Hospital on Wednesday, the 18th of March. There were thirteen patients in the hospital on the date of my visit, besides two in the isolated building, which has been recently erected by the municipality, in the hospital grounds. All of these were proper subjects for hospital treatment. There were no complaints and the register was properly kept.

This hospital has accommodation for twenty patients, divided as follows: Public wards, male patients, 6, female patients, 2; private wards, 4; and semi-private wards, 8.

It is doing an increasing amount of work, the total number of hospital days for 1902 being 2,860, of which about 50 per cent. might be classed as charitable work.

Owing to the indisposition of the secretary of the hospital board I was unable to get as much information regarding the working of this institution as was desirable.

GENERAL REMARKS.

There are few matters common to hospital work in the Territories which can more properly be dealt with in a general report than in the special reports which I have made on each individual hospital.

The first of these is the necessity for increased hospital accommodation. At almost every point I visited I found that the facilities were taxed to the utmost and, with the very large increase in population which the Territories is now receiving, there is bound to be a deplorable lack of accommodation and consequently much needless suffering.

It is difficult at first sight to see how this condition of affairs is to be remedied and the dominant impression that was borne in on me was that help would have to come from the outside. The residents of the Territories are generous to a fault in their support of hospitals, and self-sacrificing men and women all over the country have spared neither time, trouble or money in building up and maintaining institutions which would be a credit to much older communities; but the great majority of the people are poor, struggling to find homes for themselves, and are not able to divert money to charitable purposes which is required for the actual necessities of life. To afford some idea of what the people of the Territories have done I may state that there are now twelve public hospitals in the country and two more in process of erection, while in the rich and populous Province of Ontario in 1881 there were only eleven of these institutions, and in 1891 but twenty-one. And it is the people themselves who have done this work, for the help that they have received from outside is but a drop in the bucket. Quite latterly that drop has been augmented through the efforts of the Lady Minto Cottage Hospital Fund, and it is to be sincerely hoped that the controllers of this fund will see their way clear to still further enlarge the scope of their benefactions. It requires from $5,000.00 to $10,000.00 to erect and equip an average cottage hospital to accommodate from twelve to twenty patients, and a grant of $3,000.00 from the Lady Minto Fund would always ensure the establishment of such a hospital wherever it was really required. Further, I know of no way in which money could be expended with a larger return in the shape of lives

saved and suffering prevented, and if the Lady Minto Fund could be the means of founding, say, ten of these hospitals within the next two or three years it would earn the undying gratitude of thousands and its name be forever blessed.

There is a feature in connection with some of the hospitals of the Territories which calls for comment, and possibly action, and that is the establishing of training schools for nurses. There are two regular training schools now in existence, one in connection with the Medicine Hat Hospital and the other with the Calgary General. These two have turned out some good nurses in spite of the slender amount of clinical material and the comparative smallness of the hospitals, but I consider that an extension of the system to even smaller hospitals is in the highest degree undesirable. That such an extension is mooted is shown by the fact that I found probationers at Yorkton, Regina and Prince Albert. It is largely in connection with the Victorian Order that this work is contemplated. Now I consider it hardly necessary to go into my reasons for this opinion, but I make the statement that it is practically impossible to properly train nurses in a small hospital, and I would strongly advise the department not to sanction the establishment of a training school in connection with any hospital of a smaller capacity than fifty beds.

I found that the subject of isolated hospitals for infectious diseases was an acute one in many centres in the Territories, but, on the whole, things were better than two years ago, when the provision for such cases was either inefficient or practically *nil*. In Lethbridge, the town rents a building, employs nurse and doctor, and the general hospital has nothing to do with them. In Medicine Hat, the provision is the same as before; in the hospital building itself, the hospital receiving them as ordinary patients. In Regina, the town has built a cottage on the hospital grounds and has furnished it, and the hospital runs it in connection with its work, patients in the isolated appearing on the register of the general. Moosomin has yet no provision, nor has Yorkton, though one is contemplated at the latter place this coming summer. Prince Albert has no provision, and the same may be said of Edmonton. At Macleod the town has just built a cottage near the General, and it is proposed that the latter should run it. In Calgary, the General has a limited space, and the Holy Cross has but recently opened new isolated wards in its own building. It is proposed to erect a new isolated building in connection with the General hospital this summer, and Calgary should then be well supplied. I have always maintained the principle, and I think it is now generally recognised, that municipalities should bear all the cost of erecting and furnishing these buildings. They are a measure of public safety, a protection to the people, an insurance against loss from quarantine, and, therefore, a good investment. The maintenance as a rule is best left to the general hospitals, for they have the staff, the experience and the facilities.

J. A. KENNEDY.

XI.—OFFICE WORK AND ORGANISATION.

DEPARTMENTAL LIBRARY.

With the extension of the work of the department to meet the conditions inseparable from the rapid development of the country, and especially in connection with the technical branches of that work, the necessity for and usefulness of a proper reference library for the officials becomes more and more accentuated. Cut off as we are by distance from those centres of intellectual activity which are readily accessible to officials of departments of agriculture whose fields of operation lie in the older Provinces of the Dominion or in the densely settled States to the south, it is possible for Territorial officials to keep in touch with scientific progress in agricultural methods, to a large extent, only by having available for reference the latest standard works and live up-to-date periodicals dealing with the various branches of this very wide subject. The foundation of a valuable library has already been laid by the accumulation of a considerable number of bulletins and periodicals courteously supplied by scientific institutions, agricultural experimental stations and Government departments throughout the world, but especially by those of the United States, and a limited number of books which have been purchased from time to time. Steps are being taken to secure stud and herd books of the various horse and cattle breeders' associations, which will be very necessary in connection with the enrolment of stallions under the new Horse Breeders' Ordinance and the department's schemes for cattle improvement.

OFFICE ORGANISATION AND WORK.

On the 30th of June last, Mr. Charles W. Peterson, who had occupied the position of deputy head of this department for a little over five years, found it necessary, owing to urgent private considerations, to tender his resignation, and the undersigned, who had for some years filled the position of chief clerk, was then selected to undertake the important duties of the office. It is safe to say that Mr. Peterson's name will be permanently identified with the history of agricultural progress in the Territories, and while personally I regret his official severence from the work in which we have been so long associated, I feel sure that his keen intellect, wide knowledge and untiring energy, abundantly manifested in connection with the work of the department since its inception, will enable him as the executive officer of the important organisations with which he is now connected to continue to render valuable service to the Territories. (A portrait of Mr. Peterson appears as Plate I at the end of this volume.)

Mr. Peterson's retirement necessitated some reorganisation of the work of the department and, it having become apparent that the technical side of the work required closer attention, Mr. George Harcourt, B.S.A., a graduate of the Ontario Agricultural College and for some time previously editor of The Nor'-West Farmer, was appointed Superintendent of Fairs and Institutes. Mr. Harcourt joined the

department's staff in July and at once took hold of the work. His reports which appear in this volume speak for themselves.

In October last the lease of the buildings on Scarth street, Regina, occupied as departmental offices, expired and new offices were secured in the Michaelis block; these, however, being shortly afterwards required for other purposes, another removal was rendered necessary. The two removals so close together necessarily interfered with the work to some extent but owing to the active co-operation of the office staff they were accomplished satisfactorily and without confusion. I am pleased to say that the premises now occupied by the department on Hamilton street are roomy, conveniently arranged and contain what has been a serious want for some time past,—proper vault accommodation for the more valuable records.

STATISTICS OFFICE WORK.

Accountant's Branch.

Year	Number of deposits made	Number vouchers prepared
1900	2,455	396
1901	2,838	727
1902	3,710	733
1903	....	643

Correspondence Branch.

Details	1898	1899	1900	1901	1902	1903
Letters received	8,511	10,718	10,475	13,244	17,262	20,941
Letters sent	7,551	13,763	15,472	12,064	20,383	18,086
Circulars, blank forms, etc., sent	3,949	6,388	12,760	8,812	33,719	31,339
Licences and certificates issued	6,144	2,456	2,645	2,936	3,540	4,436

Revenue.

1898	$2,683.00
1899	3,075.50
1900	3,671.03
1901	3,804.47
1902	11,573.83
1903	7,124.39

The statistics above given indicate clearly that the work of the department steadily increases year by year, but the responsibilities thrown on the shoulders of the officials by the ever widening sphere of operations cannot be expressed by figures.

The thanks of the department are due to the agricultural periodicals of the West and the local newspapers of the Territories for giving publicity to many items connected with the department's various lines of work. The time would appear to be approaching when the department might usefully consider the advisability of publishing a quarterly official journal for general distribution. This is the usual practice with advanced departments of agriculture and where carried out is attended with most beneficial results. Such a publication helps to keep the

outside officials as well as the farming public in constant touch with the department and affords a useful vehicle for information on many administrative and technical points.

In conclusion I wish to convey my personal thanks to the members of the office staff who have collectively and individually, cheerfully and loyally co-operated with me in carrying out under your direction the important duties devolving upon the Territorial Department of Agriculture.

I have the honour to be, Sir,

Your obedient Servant,

J. R. C. HONEYMAN,

Deputy Commissioner.

XII.—APPENDICES.

APPENDIX A.

TERRITORIAL CATTLE BREEDERS' ASSOCIATION.

Officers for 1903-4.

President	Peter Talbot, M.L.A., Lacombe, Alta.
First vice-president	John A. Turner, Calgary, Alta.
Second vice-president	D. H. Andrews, Crane Lake, Assa.
Secretary-treasurer and Managing director	C. W. Peterson, Calgary, Alta.
Breed directors :	
Shorthorns	Hon. W. Beresford, Calgary, Alta.
Herefords	Robt. Sinton, Regina, Assa.
Polled Angus	J. D. McGregor, Walsh, Assa.
Galloways	E. D. Adams, Calgary, Alta.
Dairy breeds	J. C. Pope, Regina, Assa.
Ex officio directors :	
Hon. Dr. Elliott	Commissioner of Agriculture, Regina, Assa.
F. W. Hodson	Dominion Live Stock Commissioner, Ottawa, Ont.
Executive committee :	
Peter Talbot	Lacombe, Alta.
John A. Turner	Calgary, Alta.
D. H. Andrews	Crane Lake, Assa.
C. W. Peterson	Calgary, Alta.
Auditors :	
M. Morris	Calgary, Alta.
C. W. Rowley	Calgary, Alta.

Members for 1903.

Agricultural Society, Regina, Assa.
" " Gainsborough, Assa.
" " Wetaskiwin, Alta.
" " Prince Albert, Sask.
" " Moose Jaw, Assa.
" " Lacombe, Alta.
" " South Qu'Appelle, Assa.
" " Grenfell, Assa.
" " Moose Mountain, Assa.
" " Maple Creek, Assa.
" " Olds, Alta.
" " Wolseley, Assa.
" " Lethbridge, Alta.
" " Okotoks, Alta.
" " Fort Saskatchewan, Alta.
Andrews, Jas. McK., Davisburg, Alta.
Adams, Chas. E., Little Touchwood, McDonald Hills, Assa.
Adam, F., Duhamel, Alta.
Beggs, Jno., Arcola, Assa.

Bolton, J. and E., Okotoks, Alta.
Bredt, Paul M., Regina, Assa.
Blake, J. S., Nanton, Alta.
Beresford, Hon. Wm., Calgary, Alta.
Brice, Wm., McDonald Hills, Assa.
Brett, W. F., Canyon, Alta.
Bolton, A. H., Gladys, Alta.
Bourne, H., Shepard, Alta.
Brice, S. J., Little Touchwood, Assa.
Bennett, R. K., Calgary, Alta.
Boyce, Wm., Davisburg, Alta.,
Brown Bros., Ellisboro, Assa.
Brown, Robt., Didsbury, Alta.
Brown, C. R., Davisburg, Alta.
Bruen, Jno., Nanton, Alta.
Bryon, Thos., Harmattan, Alta.
Bryon, C. E., Jumping Pond, Alta.
Canadian Land and Ranche Company, Crane Lake, Assa.
Cheyne, Jas., Manor, Assa.
Caswell, J. J., Saskatoon, Sask.
Caswell, J. D., Rosthern, Sask.
Cowan, R. W., Cochrane, Alta.
Callin, Jos., Whitewood, Assa.
Clark, John, Crowfoot, Alta.
Cope, Jos., Broadview, Assa.
Coddrill, Wm., Calgary, Alta.
Coppock, H. C., Calgary, Alta.
Cooper, W. S., Calgary, Alta.
Christie, W. L., High River, Alta.
Cloakey, Geo., Olds, Alta.
Chalmers, Wm., Hayfield, Man.
Cook, A., Carstairs, Alta.
D'Eyncourt, Capt., Calgary, Alta.
Donaldson, J. G., Broadview, Assa.
Douglas, R. M., Tantallon, Assa.
Dakin, C. T., Lacombe, Alta.
English, S. R., High River, Alta.
Einarsson, J., Logberg, Assa.
Eckford, A. H., High River, Alta.
Fauquier, H. H., Maple Creek, Assa.
Farrar, A. E., Penhold, Alta.
Flewwelling, H. F., Lacombe, Alta.
Findlater, Dr. S. W., Lacombe, Alta.
Fraser, Hugh, De Winton, Alta.
Fotheringham, A. T., Grenfell, Assa.
Foulger and Pope, Morningside, Alta.
Flack, S., Red Deer, Alta.
Grant, Jas. S. Osler, Sask.
Gaetz, John J., Red Deer, Alta.
Geary, Geo., Innisfail, Alta.
Gier, Wm., Panima, Alta.
Godsal, F. W., Pincher Creek, Alta.
Gardner, W. C., Pekisko, Alta.
Hans, Hy., Gladys, Alta.
Hays, J. A. O'Neil, Wetaskiwin, Alta.
Indian Industrial School, Dunbow, Alta.
Kippan, H., Arcola, Assa.
Kelly and Palmer, Bassino, Alta.
Kinnon, Geo., Cottonwood, Assa.
Kinniburgh, C., Calgary, Alta.
Kiddel, J. L., Davisburg, Alta.
Laycock, Thos., Nose Creek, Alta.
Languish, Wm., Oxbow, Assa.
Lang, Wm., Okotoks, Alta.
Little, Jno., Okotoks, Alta.
Lake, R. S., Grenfell, Assa.
Mead, F. A., Pincher Creek, Alta.
Mitchell, H. T., Duck Lake, Sask.
Morton, Jno., Lacombe, Alta.
Marshall, Chas., De Winton, Alta.
Moss, W., Calgary, Alta,

Mossom Boyd Co., Bobcaygeon, Ont.
Morrison, Noble, Wetaskiwin, Alta.
Meiklejon, R. W., Cochrane, Alta.
McDermott, M., Nanton, Alta.
McNaughten, A., Didsbury, Alta.
McPherson, J. A., Spruce Grove, Alta.
McDougal, D., Morley, Alta.
McIvor, T. J., De Winton, Alta.
Macbeth, F., Calgary, Alta.
McDonald, J. A., Ft. Qu'Appelle, Assa.
McPherson, C. C., Didsbury, Alta.
Needham Bros.. Crane Lake, Assa.
Nash, Thos., Gladys, Alta.
Niddrie, Wm., Harmattan, Alta.
Olsen, A. P., Red Deer, Alta.
Page, Robt., Pine Lake, Alta.
Paisley, S. W., Lacombe, Alta.
Pope, H. J., Urqubart, Alta.
Pratt, Robt., De Winton, Alta.
Pieper, Wm., Didsbury, Alta.
Patterson, H., Gladys, Alta.
Pugh and Livingston, Okotoks, Alta.
Pope, J. C., Regina, Assa.
Palmer, Oswald, Lacombe, Alta.
Peterson, C., Guelph, Alta.
Reid Bros., Cochrane, Alta.
Ramsay, Jno., Priddis, Alta.
Richardson, Geo., Nutana, Alta.
Richardson, T. W., Dundurn, Assa.
Robinson, Jno., Innisfail, Alta.
Reinhardt, Mrs. J., Calgary, Alta.
Robinson, R., Broadview, Assa.
Robertson, D. C., Edmonton, Alta.
Rodgers, Jno., Ft. Qu'Appelle, Assa.
Salkeld, J. L., Dongola, Assa.
Sharp, J. and W., Lacombe, Alta.
Skilliter, T. A., Grenfell, Assa.
Shaw, Jno., High River, Alta.
Snider, A. B., Okotoks, Alta.
Shattuck, Chas., Davisburg, Alta.
Shantz, D. S., Didsbury, Alta.
Smalley, Abe, Olds, Alta.
Secord, Richard, M.L.A., Edmonton, Alta.
Smith, G. H., Springbank, Alta.
Shouldice, Jas., Namaka, Alta.
Shaw, Alex., Medicine Hat, Assa.
Sinton, Robt., Regina, Assa.
Scarlet, S., Innisfail, Alta.
Storey, C., Duncans, B.C.
Scott, Press, Springbank, Alta.
Stewart. W. R., Meadow Creek, Alta.
Talbot, P., and Son, Lacombe, Alta.
Turner, J. A., Calgary, Alta.
Talbot, H., Lacombe, Alta.
Thorburn, W. C., Broadview, Assa.
Talbot, Thos., Lacombe, Alta.
Tough, Jas., Edmonton, Alta.
Tate, P. G., Lacombe, Alta.
Turner, Jas., Millarville, Alta.
Thomson, Thos., Gladys, Alta.
Tregillus, Wm. I., Calgary, Alta.
Tinney, T. H., Medicine Hat, Assa.
Trend, Wm., Grenfell, Assa.
Taylor, R. F., Lacombe, Alta.
Walters, Jas. L., Lacombe, Alta.
Wilson, Jas., Innisfail, Alta.
Walker, Jas., Calgary, Alta.
Waines, Ed , Springbank, Alta.
Windeate, A. J., Calgary, Alta.
Watson, H. C., Oxbow, Assa.
Welch, A., Broadview, Assa.

Warlow, A. J. W., Priddis, Alta.
Wright, H., Guelph, Ont.
Williamson, J. and F., Calgary, Alta.
Webb, C. H., Calgary, Alta.
Wiggleworth, W., Olds, Alta.
Watson, Wm., Moose Jaw, Assa.
Young, J. J., M.L.A., Calgary, Alta.

REPORT OF THE SECRETARY.

MR. CHAIRMAN AND GENTLEMEN,—I herewith beg to submit my fourth annual report on the transactions of The Territorial Cattle Breeders' Association for the year 1903.

Change of Name.

At the last annual meeting a resolution was carried changing the name of this association from "The Territorial Purebred Cattle Breeders' Association" to "The Territorial Cattle Breeders' Association." It was felt that the old name was rather a misnomer. The main object of the association, as set forth in the constitution, is "to improve the quality of cattle," etc., and as the work of the association has always been conducted with this end in view the name adopted at the meeting in question would appear to be more appropriate and in keeping with the scope and objects of the sister associations. Many stockmen hitherto took the ground that as they were not breeders of purebred cattle they were not, properly speaking, eligible for membership. The result has been most satisfactory, and the association now bids fair to become the most popular and influential body of breeders in Western Canada.

Market and Range Conditions in 1903.

The past year will not be remembered with any kindly feelings by those who had beef to sell. Prices ruled at uniformly low figures. In fact so low that ranchers in some instanees combined with a view to exporting their beef themselves. These ventures, it is understood, were not always successful. Low prices prevailing in the British market was ascribed as the cause of the depression both in the United States and Canada.

A large movement of cattle of a very inferior type took place from the Republic of Mexico to the Territories. It is feared in well informed circles that these cattle when at marketable ages will not make exporters and that they will have to be sold as butchers' cattle, which, of course, might easily have the effect of seriously disturbing our present limited market for our range beef.

Cattle wintered fairly well in 1903, but a very destructive storm occurred about the middle of May which destroyed a large number of calves and weak stock, particularly stocker cattle. Owing to the excessively wet summer throughout the ranching section of the Territories beef was very slow in maturing, and, in fact, did not at any time reach the finish and quality of the previous year. This state of affairs was also partly responsible for lower values.

The year was not a successful one for those engaged in the stocker business. Cattle of good beef type sold at much lower prices than those of former years; $16.00 for yearlings and $20.00 for two-year-olds were about an average for that class of cattle, while dairy bred stockers could hardly be realised on at any figure.

The past year was from almost every standpoint an "off" one for those engaged in the cattle business.

Third Annual Auction Sale and Show.

The third annual auction sale, which was held at Calgary on the 14th and 15th of May last, proved without doubt that the auction sale system of disposing of and purchasing live stock in the Territories is becoming very popular among residents of the Canadian North-West. From the modest beginning of 64 head sold at the first annual sale in 1901 for $5,451.00, and the result of the second annual auction sale in 1902, where 220 head were disposed of for $21,077.00, this system of buying and selling purebred cattle has gained so rapidly in popularity that at the last sale no less than 268 head of purebred cattle changed hands for the sum of $25,890.00. In spite of the increased number sold the average price obtained was $96.60, as against $95.80 at the 1902 sale, and $85.17 obtained in 1901. At the 1902 sale the bulls averaged $38.29 higher than the cows, while at the last sale 203 bulls averaged $96.11 and 65 cows and heifers averaged $96.92, the difference being only 51 cents. The number of animals of the various breeds and the average prices realised were as follows: Aberdeen Angus (9) average $83.33; one Galloway sold for $75.00; Herefords (16) averaged $136.56; and 241 Shorthorns averaged $94.86. Last year the Shorthorns realised the highest prices by $7.50, while this year the average price of the Herefords was $41.70 higher than the average realised for Shorthorns. The difference in price may, however, be accounted for in part by the fact that a large number of buyers were looking for Herefords, whereas only sixteen animals of that breed were entered for sale.

The highest priced bull was a Hereford sold by Oswald Palmer of Lacombe to A. D. McDonald, Glengarry Ranche, New Oxley, for $255.00. No cows of any other breed than Shorthorns were offered for sale, the highest priced one being sold by Geo. Geary of Innisfail, Alta., to Jas. Wilson of Innisfail for $210.00. The highest average price was obtained by Oswald Palmer of Lacombe, who sold four head of Herefords at an average of $177.50. The next highest average was obtained by Messrs. J. and W. Sharp, Lacombe, who realised $159.43 a head for nine Shorthorns. Messrs. Mossom Boyd Co., Prince Albert, Sask., received an average of $122.66 for nine head of Herefords and the undermentioned gentlemen received averages for Shorthorns as follows: H. C. Watson, Oxbow, Assa., three head at $156.66; J. L. Walters, Lacombe, Alta., seven head at $118.57; P. Talbot and Son, Lacombe, Alta., five head at $115.00; Robt. Page, Pine Lake, Alta., eight head at $115.00; Hy. Hans, Gladys, Alta., three head at $158.33; Geo. Geary, Innisfail, Alta., six head at $139.16; S. R. English, Strathcona, Alta., three head at $110.00; J. E Bolton, Okotoks, Alta., seven head at $125.71. Animals were collected from 10 points in Assiniboia, four points in Saskatchewan and 14 points in Alberta, and were delivered to nine points in Assiniboia, 21 points in Alberta and two points in British Columbia.

The above facts speak volumes for the auction sale system of disposing of cattle, which is particularly suited to conditions as they exist in the Territories where, owing to the enormous extent of the country, purebred herds are few and widely separated, and the expense of visiting them so great that the average breeder is face to face with the neeessity of purchasing by mail. At the Calgary sale hundreds of animals are on view, some of which have been brought from eight to nine hundred miles, low passenger rates are available to and from the sale and all animals purchased are delivered for a nominal charge to the purchaser's nearest railway station. In fact every condition is so favourable both to buyer and seller that the sale is bound to grow to even larger proportions than it has already attained.

1903 ROLL OF HONOUR.

Following is a list of the names of prize winning animals and those of their owners:

ABERDEEN ANGUS BULLS.

Any age.

1st. Longbraneh Commodore 2nd No. 34437..John Morton, Lacombe, Alta.
2nd. Red Deer Robinson No. 52651.....John Morton, Lacombe, Alta.
H.C. Red Deer Roy No. 52652....., John Morton, Lacombe, Alta.
C. Red Deer Carlyle No. 52649..... ...John Morton, Lacombe, Alta.

HEREFORD BULLS.

Three years and over.

1st. Oakwood Hesiod 16th No. 96610.....O. Palmer, Lacombe, Alta.
2nd. Loretto 3rd of Ingleside No. 73754...The Mossom Boyd Co., Bobcaygeon, Ont.
H.C. Lueius No. 1272 ....Jas. Shouldice, Namaka, Alta.
C. Quality No. 1363.....The Canadian Land & Ranche Co. Crane Lake, Assa.

Two years and under.

1st. Bonnie Brae Hesiod 2nd No. 128422..O. Palmer, Lacombe, Alta.
2nd. Bonnie Hesiod 4th No. 137403 .....O. Palmer, Lacombe, Alta.
H.C. Bonnie Brae Hesiod 3rd No. 137403..O. Palmer, Lacombe, Alta.
C. Headlong of Red Deer No. 156647....The Mossom Boyd Co., Bobcaygeon, Ont.

CHAMPIONSHIP.

Bonnie Brae Hesiod 2nd No. 128422..... O. Palmer, Lacombe, Alta.

SHORTHORN BULLS.

Three years and over.

1st. Trout Creek Hero No. 28132.....Robt. Page, Pine Lake, Alta.
2nd. Farmer's Faney No. 26221.... .....A. H. Bolton, Gladys, Alta,

3rd.	Lord Raglan No. 30316	Hy. Hans, Gladys, Alta.
H.C.	Talisman No. 26996	H. C. Watson, Oxbow, Assa.
C.	Roan Prince No. 39394	A. B. Snider, Okotoks, Alta.

Two years.

1st.	Eugene V. Debs No. 44343	Hy. Hans, Gladys, Alta.
2nd.	Lincoln No. 40330	Jas. Cheyne, Manor, Assa.
H.C.	Royal Talisman No. 42511	H. C. Watson, Oxbow, Assa.
C.	Bencher No. 46197	J. & W. Sharp, Lacombe, Alta.

Yearlings.

1st.	Bachelor No. 46191	J. & W. Sharp, Lacombe, Alta.
2nd.	Lacombe Prince No. 46219	Hy. Talbot, Lacombe, Alta.
3rd.	Prairie Chief No. 41189	Robt. Page, Pine Lake, Alta.
H.C.	Strathcona Chief No. 45628	S. R. English, Strathcona, Alta.
C.	King Edward	J. & E. Bolton, Okotoks, Alta.

CHAMPIONSHIPS.

Best Shorthorn Bull Bred in Alberta.

Bachelor No. 46191 ..... J. & W. Sharp, Lacombe, Alta.

Best Shorthorn Bull Bred in Assiniboia.

Lincoln No. 40330 ..... Jas. Cheyne, Manor, Assa.

Best Shorthorn Bull any age.

Trout Creek Hero No. 28132 ..... Robt. Page, Pine Lake, Alta.

SHORTHORN COWS.

Three years and over.

1st.	Œnone 2nd No. 30380	Hugh Fraser, De Winton Alta.
2nd.	Bonnibell, Vol. XVI	Geo. Geary, Innisfail, Alta.
3rd.	Rose Bloom No. 26774	Hy. Hans, Gladys, Alta.
H.C.	Winda, Vol. XVI	Geo. Geary, Innisfail, Alta.
C.	Prairie Queen No. 34977	John Shaw, High River, Alta.

Two Years.

1st.	Luxury, Vol. XIX	Canadian Land & Ranche Co., Crane Lake, Assa.
2nd.	Coulee Queen 2nd, Vol. XX	P. Talbot & Son, Lacombe, Alta.
H.C.	Queen Esther, Vol. XX	P. Talbot & Son, Lacombe, Alta.
C.	Laura, Vol. XIX	Canadian Land & Ranche Co., Crane Lake, Assa.

Yearlings.

1st. Isabella 31st, Vol. XIX ....Robt. Page, Pine Lake, Alta.
2nd. Miss Deldee 2nd, Vol. XIX.....Robt. Page, Pine Lake, Alta.

CHAMPIONSHIP.

Best Shorthorn Female any age.

Enone 2nd No. 30380.....Hugh Fraser, De Winton, Alta.

LIST OF CONTRIBUTORS OF CATTLE SHOWING CATALOGUE NUMBERS OF ENTRIES.

RULES GOVERNING PURE BRED CATTLE SHOW.

1. The management will be under the control of the executive committee of the association.

2. Only animals whose pedigrees are published in the catalogue of sale can be entered.

3. Animals may compete without any formal entry, hut the committee reserves the right to order any animal out of the ring which, in its opinion, is not worthy of a prize.

4. The decision of the judge is to be absolutely final.

5. There will be a class of each recognised breed of cattle presented and each class will be composed of the following sections: (1) Three-year-olds and over; (2) two-year-olds; (3) yearlings—males and females of each.

6. The ages of cattle will be computed to the 1st of January.

7. In sections of three entries, one prize will be awarded; in sections of four entries, two prizes, and three prizes will be given if there are five or more entries. In case there should not be a sufficient number of entries in any one section to qualify for a prize, the various sections of the class may he amalgamated and prizes awarded on the above basis.

8. Suitable championships for the various breeds will also be given. All prizes will take the form of silver plate, according to winner's selection from catalogue furnished hy the association.

9. A programme and prize list will be issued prior to the date of the show.

RULES GOVERNING AUCTION SALE OF PURE BRED CATTLE.

1. The management will be under the control of the executive committee of The Territorial Pure Bred Cattle Breeders' Association.

2. Entries for the sale must be received hy the manager on or before sixty days prior to the date of the sale.

3. Each animal offered must be in sound health, free from physical defects and shall be registered in a herd book recognised as reliable by the association.

The following statement has been signed by every owner of stock entered at the sale: "I understand that all animals entered at the said public sale must have been proved to be sure stock getters, if they have been tried. If not, that the seller assumes no responsibility, and I hereby enter the above described animal subject to this rule and affirm that I have no reason to douht that the said animal is a sure and reliable breeder."

4. All animals entered must be the property of and must have been owned in the North-West Territories for at least six months by the members of this association who are *bona fide* residents of the Territories.

5. An entry fee of one dollar for each animal must accompany the application.

6. The association undertakes to provide transportation for pure bred cattle entered for the sale from the seller's nearest railway station to the point of sale at a uniform rate of one dollar per head (in addition to the entry fee), which amount must accompany the application.

7. All animals should be registered when entered. A certificate of transfer on the proper form, duly signed, with the name of the transferee left blank, and the pedigree, must he deposited with the manager. Blank forms of transfer may be obtained upon application to the manager.

8. The association undertakes to issue a catalogue of entries received within the sixty day limit, giving full information as to pedigree of stock entered, to place this catalogue in the hands of probahle buyers and to do such other advertising as will bring the sale to the notice of interested parties.

9. As it is very important that intending huyers should feel confident that all animals advertised will be put up for sale, no person will be allowed to withdraw an animal which has been accepted, except on account of sickness or death of the animal offered or in case of accident. In the case of sickness or death a certificate from a veterinary surgeon must be supplied at the time of the sale. The fees paid in all such cases will be forfeited to the association.

10. Animals not properly entered will not he allowed on the grounds.

11. Stock must be in the stalls or in the pens not later than the evening of the second day prior to the date of sale.

12. A sale superintendent will be appointed hy the association, who will have entire charge of all animals on the grounds, stable accommodation and routine, and whose instructions must be implicitly obeyed by all owners of and attendants upon animals.

13. Cattle must be halter-broken and each animal supplied with a good halter. Where this is not done the superintendent has instructions to buy a suitahle halter and collect the cost from the owner of the animal.

14. Prospective buyers will be given an opportunity of handling and examining the stock offered for sale, which will be availahle for inspection from the day prior to the sale until disposed of.

15. Owners or their agents will be required to take charge of their animals immediately upon arrival at the point of sale, have the animals brought to the grounds, remain in attendance upon them as long as they are there, furnish all feed required, and, subject to the directions of the superintendent, he responsible for their delivery into the hands of the proper purchasers at point of sale or loaded on association cars for delivery by rail after the sale.

16. All animals will be supplied with hay in the building at the rate of 25c. per day, which will be charged against the amount realised at the sale, owner finding his own grain. Grain can be purchased at reasonable rates on the grounds.

17. Each animal entered shall be sold to the highest hidder. There shall be no by-bidding by the owner of the animal or anyone authorised by him. Statutory declaration may be required from any buyer or seller to the effect that any purchase or sale is *bona fide* and that there has been no by-hidding in connection therewith.

18. The privilege and power of withdrawing an animal from the sale at any time shall rest solely with the executive committee and will be exercised at the discretion of its duly appointed representative in the sale ring.

19. The highest bidder will be the buyer, and if any dispute arises between two or more bidders, it shall be settled hy the animal being again put up and resold. The decision of the auctioneer shall be final in all cases.

20. All purchases must be settled for within one-half hour of the sale of the animal. If purchasers fail to settle for their purchases as stated the committee reserves full power to resell the animal to the best advantage, either publicly or privately, without further intimation, and any loss arising from such re-sale, together with keep and all other expenses, will be collected from the defaulters at this sale.

21. Immediately after each purchase is declared, the risk of the animal shall be exclusively with the purchaser, and it is declared that until a settlement

shall be made in the terms of these conditions, the delivery of the animal shall be suspended.

22. Purchasers will be expected to render every assistance in caring for the animals after the sale and loading them on association cars if they are to be delivered to them by rail.

23. Every care will be exercised by the management to prevent injury to or loss of property and to ensure the prompt delivery of animals at the proper destination, but the association, acting only as a medium between buyer and seller, will not be responsible for any loss or damage that may occur, nor for any stock missent, whether through negligence on the part of its officers or servants or not.

24. Before an animal can be removed from the building the buyer must present to the superintendent an order signed by the manager and give a receipt for the animal. This order must be left in the hands of the superintendent, and will be evidence of the delivery of the stock. Owners and attendants are especially warned against surrendering animals sold without the express order of the superintendent.

25. The manager will have power to give receipt in full for all payments for stock sold and will remit the amount realised for each animal to the owner thereof within three weeks after the date of the sale.

26. All animals not to be shipped by rail will be delivered to the various buyers on the ground where the sale is held, and the buyers will take charge of them at the close of the sale.

27. Experience has demonstrated that purchasers readily pay from $5 to $10 per head extra where they can arrange to have stock delivered at their nearest railway station at a nominal charge and without any trouble to themselves. Such being the case, the association has considered it in the interests of its members to conduct the sale subject to guarantee that all stock purchased will be delivered to the purchaser's nearest railway station in the North-West Territories, west of Moose Jaw, upon payment by the purchaser of a uniform fee of two dollars per head to assist towards covering the cost of delivering each animal by rail.

28. Every person who contributes an animal to the sale, and every one who bids at the sale, by so doing agrees to the foregoing terms and conditions.

PUBLIC MEETING AT CALGARY.

A very successful public meeting was held in Hull's Opera House on the evening of May 13th, under the auspices of the Territorial Cattle and Horse Breeders' Associations. The opera house was well filled with stockmen from all parts of the Territories as well as from Manitoba, Ontario and British Columbia. Among those on the platform were Hon. Dr. Elliott, Commissioner of Agriculture for the Territories; Hon. G. H. V. Bulyea, Territorial Commissioner of Public Works; J. R. Anderson, Deputy Minister of Agriculture for British Columbia; Prof. Geo. E. Day, of the Ontario Agricultural College: Wm. Smith, Columbus, President Canadian Clydesdale Breeders' Association; W. R. Stewart, President Territorial Horse Breeders' Association; Peter Talbot, President Territorial Cattle Breeders' Association; C. W. Peterson, Deputy Commissioner of Agriculture and Secretary Territorial Live Stock Associations; Geo. H. Greig, Winnipeg, Secretary Live Stock Associations for Manitoba; and H. S. Conn, a prominent live stock dealer, of Ottawa.

The chair was occupied by Hon. Dr. Elliott, whose remarks were well received. In referring to the successful show which the associations had held during the day, he expressed himself as more than astonished at the progress Territorial stockmen were making. He considered that the display of stock at the show grounds was not only a great credit to the Territories, but that such a show was a credit to the Dominion. It was a pleasure to him to see what a grand work the Horse and Cattle Breeders' Associations were doing for the stockmen of the West.

His department had given these associations some measure of assistance in the past and he hoped in the future to be able to give such financial assistance as would appear commensurate with the work these associations were performing.

The chairman then called on Wm. Smith, President of the Clydesdale Breeders' Association of Canada. In his opening remarks Mr. Smith said it afforded him great pleasure to have the opportunity of conveying the greetings of the Ontario Clydesdale breeders to their fellow breeders in the Territories. Although a great distance intervened between Eastern and Western Canada, the interests of the breeders were practically identical. Mr. Smith, speaking on the strength of a very incomplete knowledge of conditions in the West, was inclined to believe that the breeders of the Territories had not in the past been producing the best class of horses. Once they were able to produce the best a market would, beyond all peradventure, be assured. He believed the time was upon us when breeders should turn their attention to the production of heavy draught horses. There was no reason why the Manitoba market should not be at least partly supplied with such horses from the Territories, and besides the needs in Manitoba there was the demand from the farming districts of Assiniboia and Alberta. The stream of settlers which is incessantly pouring into the country at the present time, and which would in all probability continue unabated for several years, would in itself involve a demand for more heavy horses than could possibly be produced in the Territories with the very limited stock of brood mares available. Too much stress could not be laid on the proper selection of the sire. Every breeder of experience would readily admit that the quality of the progeny largely depended upon the character of the stallion used. It was a matter of first importance that he should look big. The price of a good sire might possibly seem a little high at the time of buying, but when his future influence was taken into consideration it would be found that, granting a stallion was not sold above his market value, there was economy in buying an expensive horse. Before closing, Mr. Smith referred in glowing terms to the display of stallions at the show held during the day. He considered their appearance a great credit to the men of the West, in fact, a stallion show such as this would be a credit to any part of the Dominion of Canada.

Hon. Dr. Elliott explained that F. W. Hodson, Dominion Live Stock Commissioner, very much regretted his inability to be present on account of indisposition, he being unable to leave his room at the hotel. This announcement was a great disappointment.

The next speaker was Prof. Day. The audience appeared to be particularly pleased to again listen to this gentleman, as a large number of those present had heard his excellent address delivered on a similar occasion a year ago. No less than eight or ten ex-O.A.C. students greeted him from the front row, all agreeing that his address was among the best they had heard him deliver.

"Stock Breeding."

was the subject of Prof. Day's remarks, which he stated were particularly addressed to young men. He took it for granted that his hearers were all interested in trying to evolve an animal of a higher type than had ever been produced before. It was an absolute necessity that breeders should be students, as breeding was not merely a game of chance, it was

a science. There were laws governing every feature of this complicated art, and the successful breeder would be familiar with what constitutes this art. The speaker wished to address the audience on the breeding of beef cattle, which he considered of the greatest importance to the western farmer and rancher.

In the first place the size of the animal should be considered. This point was often overlooked, but good size in an animal was absolutely indispensable in order to obtain the best results. Mr. Smith had referred in his address to the desirability of having a stallion "look" big, but in the breeding of beef cattle this rule did not apply. The requirements were rather that an animal should appear to be of only medium size, but it was important that it should weigh heavily. The breeder should be on the lookout for "big little cattle." Next in importance to size came quality. Beef animals were bred and raised for the block, and in directing breeding operations particular attention should be given to the requirements of the consumer. The flesh should be evenly and thickly distributed over the body. The speaker rather preferred a medium boned animal, but, of course, this depended to a considerable extent on the object in view. If the desire was to increase the size of each individual in a herd, a large boned sire should be used. The breeder could not afford to take the butcher only into consideration. He must look to the future in selecting his stock, especially sires, and see that his operations are carried on along such lines that his bunch will be gradually improving and that each year he will have a more valuable crop of calves than the previous year.

Another point upon which great stress should be laid was constitution. An animal should have a good heart girth, should be wide in front and show vigour in his general make-up. Character, although hard to express in words, was a most important point. This was best shown in the head. The head of a bull should be strong and masculine, while that of a female should be much lighter. A bull should possess a heavy, thick neck and be symmetrical in conformation. He should walk as if he had confidence in everybody, including himself. Such a bull should be carefully handled, for if unkindly treated he would be liable to make a very cross animal. "So much for the art part of the question," continued the speaker. He then pointed out that an animal may have size, constitution, character, quality and symmetry and yet not be valuable as a breeder. In looking at the reason for this we should consider an animal as the sum of a large number of animals, and this is where the

Science

comes in. If the ancestors of a certain bull had all been of a uniform type and quality, the results of the use of such a bull could be foretold with reasonable certainty, but, on the other hand, if those ancestors were of entirely different types it would be impossible to tell what the progeny of such a bull might be like. A bull should be prepotent to be a valuable breeder. That is, he should have the power to transmit his various qualities to his progeny. It was, however, necessary to go further than that, as the qualities must be desirable ones. The ancestors were in a large degree responsible for the prepotency of a bull, therefore the breeder must look to the ancestry of an animal as well as to the individual himself. It was explained that it was an easy matter to understand why ancestors had such a great influence on the breeding

qualities of an animal. As an example Prof. Day pointed out that a bull had two parents, four grand parents, eight great grand parents, sixteen great-great grand parents, thirty-two great-great-great grand parents, and so on. When each of these was an animal approximating the same type, and that type a desirable one, the chances for strong and favorable heredity are, as everyone can see, very much better than where the breeding of an animal represents a blending of widely differing characteristics. The closest ancestors exert, of course, the greatest influence on an individual. The speaker believed that in many cases too much stress was put on the fact that a bull was pure bred and registered. This brought him to the question of

Pedigree.

It was a mistake to place too much reliance on pedigree. It is well to have an animal with an illustrious ancestry, but it is also necessary to go farther than that and have an animal of good individuality. There are pure breds and pure breds. Some are good and others are of very indifferent quality. While the study of pedigrees is a very difficult one, breeders should not be discouraged. One of the best methods by which one could become informed as to a good and bad pedigree is to visit the leading fairs and take notes on and study the pedigrees of the great prize winners of the breed in which one is interested. The question of where to hold the balance between pedigree and individuality is a perplexing one. The speaker would perhaps prefer individuality, if it came to a choice between that and mere pedigree. If, on the other hand, an animal has a reasonable amount of quality, constitution and character, and a satisfactory pedigree, the speaker would accept such a beast rather than a prize winner without a satisfactory pedigree. It required a level head to adjust the balance.

The chairman next called upon the Hon. G. H. V. Bulyea, the late Commissioner of Agriculture for the Territories.

Mr. Bulyea said that when he had charge of the department he realised the great difficulty the people of the Territories would have in profitably disposing of the products of their ranches and farms unless central market places were created. With the assistance of Mr. Hodson and The Canadian Pacific Railway Company, his department had succeeded in starting the annual sale, which had proved far more successful than was at first anticipated, and the associations organised to promote the interests of stockmen in the Territories were now on a good firm footing. Great credit is due to the citizens of Calgary for the assistance they have given the associations. Although at present more directly interested in the Public Works Department, he had no intention of forgetting the agricultural department, as the two departments should work hand in hand. The speaker was pleased to see so many representatives from Eastern Canada present at the meeting, as, after having seen the country, they could realise more fully the capabilities of the West. He had recently visited the scene of disaster at Frank, and, although he had heard all about the great landslide from people who had seen it, he could not comprehend its immensity until he had seen for himself. In the same way he was not surprised to find the people from the East very much astonished on visiting the Territories, although they had frequently read and heard all about the country.

Some years ago the Department of Agriculture had, through an arrangement with The Canadian Pacific Railway Company offered a

$5.00 rate for bringing in bulls from the East. This was a good thing for the breeders in this country. But now that the annual sale was firmly established, there was not so much need for such an arrangement. People like to buy animals bred and raised by some one at a distance, and this fact had a considerable influence on the success of the sales. He wished to take this opportunity of testifying to the untiring energy displayed by Mr. Peterson in promoting the live stock interests of the West. He believed that it was largely due to him that the association had accomplished such a useful work and that the sale had developed so rapidly and substantially. He regretted Mr. Peterson's decision to sever his connection with the Territorial public service, but felt certain that his influence would still manifest itself in the improvement of live stock throughout the country.

As an instance of the number of horses that were being brought into the farming districts of the Territories, the speaker said that 600 Eastern and United States bred horses had been sold in the electoral district of South Qu'Appelle. He saw no reason why this supply should not come from the ranching districts of the Territories. In closing, Mr. Bulyea referred to the splendid show which was held during the early part of the day. He considered it as good a display of stock as could be gathered in any part of the Dominion.

A hearty vote of thanks was tendered to the speakers and a very successful and instructive meeting was thus brought to a close.

TRANSPORTATION FACILITIES FOR EXPORT CATTLE.

At the last annual meeting the following resolution was passed:

That the Dominion Department of Agriculture be requested to cause enquiries to be made in connection with the cattle export business, particularly bearing upon transportation facilities and rates to the seaboard, both in the United States and Canada, as well as steamship accommodation and rates from ports in both countries, with a view to discovering why the United States' cattle are landed at British ports in superior condition compared to the bruised and illtreated Canadian ranche cattle, consequently commanding higher prices, in order that steps may be taken to remedy the difficulties by legislation or otherwise on the part of the proper authority.

The matter was brought to the attention of the Dominion Government and an investigation into the subject was made by Dr. Rutherford, Chief Veterinary Inspector, under the instructions of the Minister of Agriculture. A very complete report appears in the last annual report of his department the substance of which is, that while our cattle do not reach their destination in nearly as good a condition as those shipped from the United States, the fault does not lie nearly as much with deficient transportation facility as in the fact that western cattle, being shipped direct from the range without any any finishing process, do not accommodate themselves as readily to restraint *en route* as they otherwise would. Eighty-five per cent. of the cattle exported from the south of the line have been grain fed and handled and are, therefore, more docile in transit. There is an obvious moral to be derived from this report. We should imitate our American cousins and the sooner we get ready to do so the better for the cattle industry of the Territories.

Respectfully submitted,

CHAS. W. PETERSON,
Secretary and Managing Director.

Offices of the Territorial Live Stock
Associations, Calgary, N.W.T.,
2nd January, 1904.

APPENDIX B.

TERRITORIAL HORSE BREEDERS' ASSOCIATION.

Officers for 1903-4.

President ..... W. R. Stewart, Meadow Creek, Alta. (deceased).
First vice-president ..... J. A. Turner, Calgary, Alta.
Second vice-president ..... D. H. Andrews, Crane Lake, Assa.
Secretary - treasurer and Managing director ..... C. W. Peterson, Calgary, Alta.

Breed directors:
- Clydesdales ..... Hon. Wm. Beresford, Calgary, Alta.
- Shires ..... W. L. Christie, High River, Alta.
- Hackneys ..... J. R. Thompson, Calgary, Alta.
- Thoroughbreds ..... E. J. Swan, Dewdney, Alta.
- Standardbreds ..... Dr. J. P. Creamer, Qu'Appelle, Assa.
- Coach breeds ..... A. H. Eckford, High River, Alta.

Ex officio directors:
- F. W. Hodson ..... Dominion Live Stock Commissioner, Ottawa, Ont.
- Hon. Dr. Elliott ..... Commissioner of Agriculture, Regina, Assa.

Executive committee:
- W. R. Stewart ..... Meadow Creek, Alta.
- J. A. Turner ..... Calgary, Alta.
- D. H. Andrews ..... Crane Lake, Assa.
- C. W. Peterson ..... Calgary, Alta.

Auditors:
- M. Morris ..... Calgary, Alta.
- C. W. Rowey ..... Calgary, Alta.

Members of the Territorial Horse Breeders' Association, 1903.

NAME.	ADDRESS.
Agricultural Society	Regina, Assa.
" "	Gainsboro, Assa.
" "	Wetaskiwin, Alta.
" "	Prince Albert, Sask.
" "	Moose Jaw, Assa.
" "	Lacombe, Alta.
" "	South Qu'Appelle, Assa.
" "	Grenfell, Assa.
" "	Moose Mountain, Assa.
" "	Maple Creek, Assa.
" "	Olds, Alta.
" "	Wolseley, Assa.
" "	Lethbridge, Alta.
" "	Okotoks, Alta.
" "	Ft. Saskatchewan, Alta.
Andrews, D. H.	Crane Lake, Assa.
Anderson, V.	Calgary, Alta.
Atkinson, G. M.	Wishart, Assa.
Brown, L. C.	Elkwater, Assa.
Banister, H.	Davisburg, Alta.
Beresford, Hon. W.	Calgary, Alta.
Bredt, P. M.	Regina, Assa.

NAME.	ADDRESS.
Browne Bros.	Ellisboro, Assa
Bevan, R. F.	Calgary, Alta.
Creamer, Dr. J. P.	South Qu'Appelle, Assa.
Clark, John	Crowfoot, Alta.
Christie, W. L.	High River, Alta.
Carswell, Jno. A.	Penhold, Alta.
Douglas, W. A.	Maple Creek, Assa.
Dickson, J. K.	Woolchester, Assa.
Douglas, R. M.	Tantallon, Assa.
Eckford, Mrs. A. H.	High River, Alta.
Eckford, A. H.	High River, Alta.
Fisher, Jos.	Millarville, Alta.
Fraser, J. A. W.	Cochrane, Alta.
R. F. Forrest, M.D.	Uxbridge, Ont.
Findlay, G. A.	High River, Alta.
Goddard, G. E.	Calgary, Alta.
Godsal, F. W.	Pincher Creek, Alta.
Harrington, Dr. J. B.	Lacombe, Alta.
Hoadley, Geo.	Okotoks, Alta.
Horn, Peter	Okotoks, Alta.
Kerfoot, W. D.	Cochrane, Alta.
Kinniburgh, C.	Calgary, Alta.
Laycock, C.	Calgary, Alta.
Lauder, J. D.	Innisfail, Alta.
Limoges, G.	High River, Alta.
Lindeburgh, Alfred von	Kutawa, Assa.
Moodie, Wm.	DeWinton, Alta.
Mansen, Jno.	Didsbury, Alta.
Mead Bros.	Pincher Creek, Alta.
Murphy Bros.	Cochrane, Alta.
Manzer, L. S.	Maple Creek, Assa.
Meiklejon, R. W.	Cochrane, Alta.
McAlpine, Hugh	Carstairs, Alta.
Macfarlane, J. M	Saskatoon, Sask.
McCarty, Chas.	Maple Creek, Assa.
McDermid, M.	Nanton, Alta.
MacFarlane, J. M.	Moose Jaw, Assa.
McDonald, D. P.	Cochrane, Alta.
McBride, Alex.	Qu'Appelle, Assa.
McKenzie, Malcolm	Macleod, Alta.
McNeill, Ed.	Macleod, Alta.
McKinnon, Q	Langdon, Alta.
McDonald, J. A.	Ft. Qu'Appelle, Assa.
Newbolt, W. R	Calgary, Alta.
North, Jno.	Qu'Appelle, Assa.
Pearce, S.	East End, Assa.
Perrenond, Chas	Cochrane, Alta.
Robinson, R. G.	Calgary, Alta.
Rawlinson, C. M.	Calgary, Alta.
Reilly & Thompson	High River, Alta.
Rawlinson, A. G.	Edgeley, Assa.
Swann, E. J.	Okotoks, Alta.
Sutherland, J. R.	Calgary, Alta.
Shaw, H. M.	Nanton, Alta.
Secord, Richard	Edmonton, Alta.
Shortt, Geo	Calgary, Alta.
Scarlet, S.	Carstairs, Alta.
Scott, Press	Springbank, Alta.
Thorburn, D	Davisburg, Alta.
Turner, J. A.	Calgary, Alta.
Thorn, W. B.	High River, Alta.
Thompson, J. R.	Calgary, Alta.
Tregillis, Wm. J.	Shaganappi, Alta.
Upper, W. E. and R. C.	North Portal, Assa.
Walker & Creighton	Cochrane, Alta.
Wright, Francis	Millarville, Alta.
Winn, J.	Calgary, Alta.

Honorary Members.

J. R. Anderson....Deputy Minister of Agriculture, Victoria, B.C.
Geo. H. Greig.....Secretary Live Stock Association, Winnipeg, Man.
Hy. Wade .....Secy. Dominion Horse Breeders' Association, Toronto.

REPORT OF THE SECRETARY.

MR. CHAIRMAN AND GENTLEMEN,—I herewith beg to present my fourth annual report upon the transactions of The Territorial Horse Breeders' Association for the year 1903.

Market and Range Conditions in 1903.

A retrospect of market and range conditions of the past year is full of encouragement to the horse breeders of the Territories. Horses all over the country came through the winter of 1902 in excellent condition and the extraordinary demand for all classes of horses at fair to excellent prices, largely due to the enormous immigration which is finding its way to the Territories, will enable breeders to recoup themselves for the losses sustained during the years of depression. Mange has made its appearance in some herds, but otherwise the health of horses throughout the country is excellent. Swamp fever claimed its usual number of victims in Saskatchewan, Eastern Assiniboia and Northern Alberta during the past season.

Stallion Show.

The annual spring stallion show held in May, 1903, brought out 45 of the best stallions in the Territories. The show was a success from every point of view, and it is interesting to note that the combined spring pure bred cattle and stallion show drew as large a crowd from the city of Calgary and district as any day of the large summer exhibition held there. In view of the fact that no outside attractions whatever were provided and that the public attended simply to witness the judging and examine the stock, it would appear that some hope yet exists for the purely agricultural fair devoid of all the sensational features that nowadays seem to monopolise the attention of patrons of our large fairs.

RULES GOVERNING PUREBRED STALLION SHOW.

1. The management will be under the control of the executive committee of The Territorial Horse Breeder's Association.

2. Entries shall be limited to stallions registered in recognised stud books and owned by members of this association residing within the Territories. Every entry must be made in the name of the *bona fide* owner of the animal.

3. A fee of one dollar will be charged for each entry which must accompany the application.

4. If a sufficient number of entries are received by the secretary prior to the 10th of March they will appear in catalogue form. Entries positively close on the 1st of May.

5. The breed sections will be as follows:—Light horses: (1) Thoroughbreds, (2) standard breds, (3) hackneys, (4) all recognised coach breeds. Heavy horses: (1) Clydes, (2) shires, (3) percherons, (4) Suffolk punch.

6. The classes in all breeds except Clydes will be as follows: (1) Three-year-olds and over, (2) two-year-olds, (3) yearlings. In Clydes there will be a class for three-year-olds and one for four-year-olds and over, in addition to (2) and (3).

7. First and second prizes will be offered in each class and third prizes where the entries exceed five. Suitable championships for the various breeds will also be given. All prizes will take the form of silver plate, according to winner's selection from catalogue furnished by the association.

8. Programme and prize list will be issued prior to the date of the show.

9. No unsound horse will be awarded a premium.

10. The age of stallions will be computed to the first of January.

11. Every care will be exercised by the management to prevent injury to or loss of property, but the association will not be in any way responsible for whatever loss or damage occurs. All persons entering stallions for competition must assume the entire risk during transit and while on the grounds.

12. The association will endeavour to arrange for free transportation of horses entered from outside a radius of 30 miles from Calgary, if a sufficient number of entries can be secured from any point to justify chartering a stable car.

JUDGING.

The judges were supplied by the Territorial Department of Agriculture and appointed by Mr. F. W. Hodson, Dominion Live Stock Commissioner. The following gentlemen acted: William Graham, Claremont, Ont.; H. S. Conn, Ottawa, Ont.; Wm. Smith, Columbus, Ont. Three protests were filed under Rule 2 and all were duly sustained by the board of directors.

List of Animals Winning Prizes at the Spring Stallion Show, giving the Names of their Owners.

COACH BREEDS.

Any Age.

1st. Black Doctor No. 6279.... ....Rawlinson Bros., Calgary, Alta.
2nd. Napoleon No. 691 ....A. P. McDonald, Cochrane, Alta.
H.C. Paladino No. 2186 .....G. E. Goddard, Cochrane, Alta.
C. Cazeque No. 949. ... .R. G. Robinson, Calgary, Alta.

CLYDES.

Four Years and Over.

1st. Prince Lyndock Vol 14.....John Clark, Crowfoot, Alta.
2nd. Gretna Crown Vol. xxv.. .....J. A. Turner, Calgary, Alta.
3rd. McClinker's Heir Vol. x.....H. Banister, Davisburg, Alta.
4th Border Reiver (Imp) (2307) 10171A. H. Eckford, High River, Alta.

Three Years.

1st. Charming Prince .....R. W. Meiklejon, Cochrane, Alta.
2nd. Pride of Eastfield No. 2828 ....Jno. Clark, Crowfoot, Alta.
3rd. Matchless No. 2846..... ....Hon. W. Beresford, Calgary, Alta.
H.C. Orpheus (11447).... .....J. A. Turner, Calgary, Alta.
C. Brooklyn 2nd [3048]. . .....J. K. Dickson, Woolchester, Assa.

Two Years.

1st. Royal MacQueen [3145]..... J. A. Turner, Calgary, Alta.
2nd. Winsome Prince [3173].....J. A. Turner, Calgary, Alta.

Yearlings.

1st. Improver [3671]..... ..... J. R. Thompson, Calgary, Alta.

HACKNEYS.

Three Years and Over.

1st. Commodore III No. 6697 ..C. M. Rawlinson, Calgary, Alta.
2nd. Glenlyon No. 4788.. .....W. L. Christie, High River, Alta.
H.C. Woodland Agility... .....R. G. Robinson, Calgary, Alta.
C. Pioneer No. 65. ..... John Clark, Crowfoot, Alta.

Two Years and Under.

1st Sky Pilot No. 147.... .. ....Wm. Moodie, De Winton, Alta.
2nd Combination No. 137 .... .. Wm. Moodie, De Winton, Alta.

STANDARD BREDS.

Three Years and Over.

1st. Alvolio No. 38897 .....Dr. Forrest, Calgary, Alta.
2nd. Eustice No. 10541 .....Geo. Shortt, Calgary, Alta.
H.C. Royal M. No. 959. .. .. Dr. Forrest, Calgary, Alta.
C. Jay Gould No. 960... .. ..Dr. Forrest, Calgary, Alta.

Under Three Years of Age.

1st. Johnie Kirk No. 37261.. ... ..W. R. Stewart, Meadow Creek, Alta.

SHIRES.

Three Years Old and Over.

1st. Linden II No. 19766 . ..W. L. Christie, High River, Alta.

Yearlings.

1st. Pelham Chief No. 362 . ...Mrs. A. H. Eckford, High River, Alta.

SUFFOLK PUNCH.

Any Age.

1st. Nelson No. 2822 .. .. J. A. W. Fraser, Cochrane, Alta.

THOROUGHBREDS.

Any Age.

1st. Lord Glen No. 22652.. . ....R. F. Bevan, Calgary, Alta.

SWEEPSTAKES.

Best Heavy Draught Stallion, Any Breed or Age.

Charming Prince [2793].... ....H. W. Meiklejon, Cochrane, Alta.

List of Contributors to Prize List of the Spring Stallion and Purebred Cattle Show.

P. Burns, Calgary .... (silver plate)	$100	00
Imperial Bank.....	25	00
Bank of Montreal.	25	00
Union Bank.	25	00

Bank of Commerce	25 00
Molson's Bank	25 00
Hudson's Bay Co	30 00 (cup)
Alberta Hotel, Calgary	25 00
Royal Hotel	25 00
Great West Saddlery Co., Calgary	25 00
D. H. Andrews, Crane Lake	25 00
John A. Turner, Calgary	25 00
Calgary Brewing & Malting Co., Calgary	25 00
Grand Central Hotel, Calgary	10 00
Cushing Bros., Ltd., Calgary	10 00
Calgary Furniture Co., Calgary	10 00
Calgary Saddlery Co., Calgary	10 00
Copas & Emerson, Calgary	10 00
Riley & McCormick, Calgary	10 00
R. B. Bennett, M.L.A., Calgary	10 00
J. J. Young, M.L.A., Calgary	10 00
Ashdown Hardware Co., Calgary	10 00
A. McBride & Co., Calgary	10 00
I. S. G. Van Wart, Calgary	10 00
Parslow & Hamilton, Calgary	10 00
Drs. McKid & Stewart, Calgary	5 00
Commercial Hotel, Calgary	5 00
G. E. Jacques, Calgary	5 00 (goods)
C. F. Comer, Calgary	5 00
Skinner & Miquelon, Calgary	5 00
T. A. Hatfield, Calgary	5 00
Neilson Furniture Co., Calgary	5 00
Bank of Commerce, Edmonton	(silver medal)
Bank of Commerce, Innisfail	(silver medal)
Bank of Commerce, Ponoka	(silver medal)
Bank of Commerce, Medicine Hat	(silver medal)
Bank of Commerce, Calgary	(silver medal)

ANNUAL TERRITORIAL HORSE SALE.

The scheme of organising a large association sale of horses annually, somewhat along the lines of the pure bred cattle sale held by the sister association at Calgary, is one which has for years been under discussion amongst the members. Last year the matter assumed tangible form. At the annual meeting the scheme was proposed and early last autumn the board of directors was called together in order to formulate details. As a result, the following letter was sent to some twenty-five hundred horse owners throughout the Territories:

DEAR SIR,—At a meeting of directors of the Horse Breeders' Association held recently it was decided to attempt an annual auction sale of horses at Calgary, along the lines of the sale of pure bred cattle conducted annually at that point, which has proved so successful.

It is conceded on all sides that the breeding of horses ought to be one of the leading industries of the Territories and that the difficulty in obtaining a satisfactory cash market, at least for the lighter classes of horses, is one of the most serious obstacles under which the industry is at present labouring. It is expected that a well conducted annual auction sale would be the means of bringing buyer and seller together and thus solve the problem.

No detailed working plan has yet been evolved, but as a first step it is necessary to ascertain how many entries could be secured for such a sale held towards the end of March next. Those desiring to send horses would be expected to make their own shipping arrangements, but the association would assist in making up carload lots at central points where a number of contributors would ship and thus reduce expenses. It is also expected that concessions in freight rates would be made.

It is very desirable that all horses offered should have been handled. The more they have been handled the better the price will undoubtedly be. The principal customers will probably be dealers, who are not in a position to break and handle horses, but who expect to turn them over to their customers in the shortest possible time. Horses shown under the saddle will, therefore, certainly

bring higher prices than those merely led into the sale ring. While the association will not this year insist upon horses being sold subject to a guarantee of being quiet to ride and drive, no horse will be accepted for sale that will not lead quietly or is not, at least, stable broken.

The terms of sale will be cash. The sellers pay an entrance fee of 50c. per head and 3 per cent. of the amount realised will be deducted as a sale commission out of which advertising and other expenses will be defrayed. The desire of the management is to make the charges to the seller low enough to just cover expenses. The undertaking is to be conducted entirely for the benefit of the members of the association. If you have one or more horses that you would like to enter for the proposed sale, kindly advise me at once when entry forms and other information will be sent you.

The Horse Breeders' Association has now been in existence for some years and has been very active in promoting the interests of breeders throughout the Territories. The annual membership fee is only $1 and funds are urgently required to carry on the good work. It is also very desirable that the association should receive the influence and support of every breeder in the West. The greater the membership the more weight will the representations of the association command. If you are not already a paid up member you will consult your own interest in making application for membership to the undersigned forthwith.

Yours faithfully,

CHAS. W. PETERSON,
Secretary.

At a later meeting of the directors the undersigned reported upon the result of his efforts in the way of obtaining support for such a sale. The concensus of opinion on the part of breeders seemed to be that sufficient time had not been given to enable them to get their horses in shape for public sale. An outbreak of mange also occurred throughout the range country and, as it was doubtful whether sufficient accommodation in the way of building would be available in time for the sale, which would not be held at a later date than the end of March, the directors decided to give up the idea of a sale for 1904, but would strongly recommend that all arrangements be made at an early date for such a sale to be held in 1905, and that publicity be given to the fact so that ranchers and breeders may be able to handle any horses intended for the sale during the coming summer and fall. The question of what classes of horses should be eligible for entry at association sales, the proper time of the year for such sales, to what extent they should have been handled and what opportunities should be afforded for showing the animals to intending buyers before or at the time of the sale, are matters which might profitably be discussed at our next annual meeting.

During the past winter the undersigned visited important horse market centres in the United States and witnessed several sales of horses. Copies of rules prevailing there and other information respecting the organisation of sales has been gathered during the year. While in Eastern Canada I interviewed a number of leading dealers and obtained assurances from them to the effect that they would be prepared to attend and purchase at any sales that might be organised by the association, providing a large enough number of horses were entered to justify them in coming West specially for the purpose. It is also certain that all the prominent dealers in Manitoba would be only too glad to avail themselves of this method of purchasing. It is, however, in my opinion, essential that at least 300 or 400 head should be entered in order to establish this sale on a permanent and successful basis.

Government Licensing of Stallions.

A reliable description of the breeding and ancestry of stallions travelling or standing for service in the Territories is a question of great

importance to the horse industry of the West. The association, realising the great loss to the industry annually by reason of stallions with valueless pedigrees, or none at all, being misleading or fraudently described in advertising matter, took the question up with the Territorial Department of Agriculture which, on the strength of recommendations made by the association, had legislation passed in the spring of the past year making it illegal for a person to travel a stallion in the Territories without a licence from the Territorial Department of Agriculture. The licence in question must be reproduced on all advertising matter used in connection with stallions available for public service. There are three different forms of licences, namely, for pure bred animals, for cross breds and for grades. The licence sets forth prominently what class the stallion in question belongs to and due information is thus given the public respecting his breeding.

This is as far as Government restrictions could safely be applied. The public must be its own judge as to whether or not grade or cross bred stallions are to be patronised. The Government has, however, a perfect right to insist that all stallions shall travel under their proper colours. The Territorial Government is again to be congratulated on agricultural legislation in advance of any province in Canada. This measure has been extensively discussed at breeders' meetings throughout Canada, and, as soon as its merits become quite apparent, it will doubtless be copied elsewhere.

Minimum Valuation Upon Horses Imported Into Canada.

This is a subject which has been referred to at length in previous years' reports. The importation of horses from the United States is annually increasing and the average valuation per head is decreasing. The Canadian North-West is being flooded with a class of horses that is already too plentiful in the country at the present time and which are bought at slaughter prices on the overstocked ranges of Montana and the effect has been to completely demoralise the limited market for low grade animals and misfits produced on the Canadian ranches. During the past year, a special meeting of directors was held to consider the advisability of sending a deputation of breeders to Ottawa to lay the case properly before the members of the Dominion Government. The following composed the delegation: W. R. Stewart, Macleod, president; John A. Turner, Calgary; Dr. Creamer, Qu'Appelle; and C. W. Peterson, secretary. Arrangements were also made for a deputation from the Provinces of Manitoba, British Columbia and Ontario. The following statement was sumitted by this association in support of our request for the imposition of a minimum valuation to exclude the lowest grade horses that are now brought in practically duty free.

It is submitted that owing to favorable climatic and soil conditions in the westerly portion of the North-West Territories rendering that district peculiarly well suited for the rearing of all classes of horses this industry is bound to assume considerable proportions in the near future. In all civilised countries where any pretence is made to develop the horse industry close Government supervision is exercised, having in view exclusively the improvement of the breeding stock of the country. It may, therefore, be taken for granted that no real progress can be made without such improvement, which indeed is recognised everywhere as the very foundation of the development of a prosperous live stock trade. Vast sums are, as a matter of fact, now spent in the various Provinces and Territories in Canada upon this object by the Governments and breed associations, principally through the channel of the agricultural fairs system.

If it can be satisfactorily demonstrated that public expenditure and supervision is justifiable in order to eliminate the "scrub" element in horses present in any country through encouraging the use of improved breeding stock (and where necessary even adopting coercive measures in the interest of the industry) it would appear that any policy contemplating the unrestricted importations into such a country of the misfits and inferior stock of another nation, particularly a competitive nation, thus undoing at one fell sweep all its own efforts and the efforts of those having the upbuilding of a profitable export trade at heart, is inconsistent and directly opposed to the best interests of the public.

It has been alleged that Territorial breeders are seeking trade protection in petitioning for the imposition of a reasonable minimum valuation on horses coming into Canada from other countries. Such is not the case. Western breeders would welcome any shipment of horses which would contribute towards the improvement of our horse stock. We merely object to be made the dumping ground for the useless and unsaleable scrubs of the United States, particularly on the grounds that our Indian reserves and less progressive breeders supply this article too plentifully for those endeavouring to improve their stock generally, and others, with the best of judgment, have a few misfits to dispose of, which are almost unsaleable under present conditions. The following statement shows the importation of horses into Manitoba and the Territories for the years 1901 and 1902, together with the total value and average value per head:—

PORT OF ENTRY	No. imported		Value		Average value per horse	
	1901	1902	1901	1902	1901	1902
Winnipeg	2,144	5,526	$ 67,749	$283,108	$31.60	$51.21
Brandon	1,006	934	59,947	185,243	59.59	198.33
Regina	...	1,002	....	35,587	...	35.51
Lethbridge	2,806	9,064	60,902	167,569	21.71	18.48
Calgary	1,267	4,756	41,675	106,880	32.89	22.47
Manitoba & the Territories	7,223	21,282	230,273	778,387	31.88	36.57

An examination of the above figures will show that there is an apparent increase in value per head last year over the year before, the 1901 average being $31.88 and the 1902 $36.57. Under ordinary circumstances this might be looked upon as a step in the right direction, but unfortunately there is a very simple explanation of this apparent improvement. The following statement showing further details of the 1902 importations puts a different phase on the situation:

PORT OF ENTRY	No.	Duty paid	No. of pure bred horses admitted free	Duty free
Winnipeg	5,453	Ave. $34.45 $187,863	73	Ave. $1,304.72 $95,245
Brandon	806	Ave. $51.74 $41,703	128	Ave. $1,121.40 $143,540
Regina	985	Ave. $30.44 $29,987	17	Ave. $329.40 $5,600
Lethbridge	9,063	Ave. $18.43 $167,069	1	$500
Calgary	4,723	Ave. $20.82 $98,380	33	Ave. $257.87 $8,500
	21,030	$525,002 Ave. $24.96	252	$253,385 Ave. $1,005.49

If the average of over 21,000 horses brought into Manitoba and the Territories last year was entered as being worth less than $25.00 per head only two conclusions can be arrived at, either, that these horses were of such an inferior quality that it is against the public interest to admit them; or, that the customs authorities were defrauded by under valuation.

This grievance has been repeatedly brought before Dominion ministers individually and has been referred to on the floor of the House of Commons.

more than once, and the justice of the prosposal has been admitted on all sidess One objection has, however, stood in the way, namely, that the farming population of the West requires cheap horses and the restrictions asked for would not, therefore, be in their interests. A moment's reflection will quickly show that this arrangement, while theoretically feasible, has no practical foundation, in other words, that the imposition of a reasonable minimum valuation would not effect the selling value of horses one iota. Of the 21,000 horses which were imported into the West from the United States last year, certainly not more than 50 per cent. were required for work, the balance being bought for breeding purposes, chiefly because they were cheap—one of the most vicious effects of the present lack of restriction. This would leave a requirement of 10,000 head of work horses over and above what is provided from local, Eastern Canadian and British Columbia sources. It is absurd to argue that this insignificant number would effect the market value of a horse on the Canadian side to such a fine point that the addition of a few dollars duty per head would increase the selling value of all horses a corresponding amount. The dealer from the States who brings a bunch of horses into the West does not carefully figure out the cost per head laid down including duty, and after adding a certain percentage for profit disposes of his horses at this figure to the farmers. The practical working out of the problem is that he sizes up the market values here after he arrives and perforce sells at the figures, whether it involves a large profit or less. My argument is, that the market value of a horse in the West is not at present determined by the volume of importations from the United States, but entirely by Canadian demand and supply and that any reasonable change in the amount of duty on horses would have absolutely no effect on the price the farmer would have to pay for a horse of a given quality and standard.

While it is not submitted in the way of argument, as it is realised it has no particular bearing on the case, it is of interest to note that the minimum valuation imposed on horses going from Canada into the United States is $150.00.

The case was very ably put before a subcommittee of the Privy Council consisting of the following Ministers: Sir Wilfrid Laurier, Hon. Mr. Fielding, Hon. Mr. Sifton and Hon. Mr. Fisher on the 8th day of January by our late President and was strongly supported by every delegate present. The delegation was composed of the following gentlemen: Messrs. Henry Wade, Stock Registrar; Peter Christie, Manchester; John Bright, Myrtle; Henry Robinson, Toronto; William Hendrie, Jr., Hamilton; William Stewart, Macleod, Alberta; Fred Richardson, Columbus, Ont.; J. M. Hardhouse, Weston, Ont.; Samuel McBride, Toronto; and Dr. Creamer, Qu'Appelle.

It is to be hoped that the determined efforts of Canadian breeders will now bear fruit. The present position of affairs is not calculated to foster the horse industry and it is high time the Dominion authorities give a definite reply to a demand which now comes from every Province and Territories of Canada.

REMOUNT DEPOTS.

Until recently the outlook for the establishment of Imperial Remount Depots in the West has been far from reassuring. As pointed out in a previous report, when the political situation in Great Britain is taken into consideration, with English and Irish breeders clamouring for patronage, the outlook for Canada as a field for the purchase of remounts is somewhat gloomy. Granting that one-half of the remounts required by the British army will be purchased in the colonies (1,250), by the time this number is divided up between Australia, New Zealand, Canada, and possibly other colonies, and Canada's share is subdivided amongst the various provinces, it would appear that the possibilities of this market are not such as should entice our breeders to devote special attention to the production of this class of horse, more particularly as the type required seems to be an ever changing one. Of course there is a probability of a market being available in continental European countries, but the situation politically under constitutional government is the same everywhere. The purchasing of horses for the army is patronage in the hands of the government which is generally claimed by home breeders, and a government is seldom able to withstand the

pressure brought to bear by its political supporters even in the face of the fact that better horses at lower prices can be purchased elsewhere.

Some change in sentiment would, however, seem to have made its appearance in the War Office. A commission from the Remount Department under Captain Lawley is now on its way to Canada to look over the field here, possibly with a view to permanent arrangements of some sort respecting the purchase of remounts for the Imperial army.

REMOUNTS FOR THE INDIAN ARMY.

Considerable correspondence took place during the year between the undersigned and Colonel Goad, Director General of the Remount Department of the Indian Army at Simla, India, with respect to the purchase of emergency supplies of remounts for the Indian army in the Territories. Full information was promptly given.

NATIONAL CONVENTION OF LIVE STOCK BREEDERS.

At the last annual meeting of this association the following resolution was passed:

That a Dominion National Live Stock Association be organised to be made up of representatives of the various live stock associations throughout Canada, and that they be invited to co-operate in effecting the organisation.

This resolution was duly communicated officially to the Live Stock Commissioner of the Dominion Government. A call has now been issued by the Dominion Minister of Agriculture for a national convention of stock breeders at Ottawa from the 7th to the 12th of March next. The following is a list of subjects to be dealt with at this convention:

1. (*a*) Should Canadian records of purebred stock be national in character and scope?
   (*b*) By whom and how should they be conducted?
   (*c*) Should there be more than one record for one breed in Canada?
   (*d*) Should an attempt be made to amalgamate Canadian and American records, so that there may be but one recognised record for each breed in North America?
   (*e*) Should an attempt be made to amalgamate British and Canadian records, so that there may be but one recognised record for one breed in Great Britain and Canada?
   (*f*) Can farmers be protected against loss caused by the purchase and use of breeding animals registered in unreliable or undesirable records?
   (*g*) Can railroad officials be protected from carrying at half rates animals registered in unreliable or undesirable records?
   (*h*) Should records conducted by joint stock companies be accepted as desirable?
   (*i*) Should foreign records be recognised as a basis for the free admission of breeding animals into Canada?
2. Should the Canadian Government be asked to take steps to regulate the further importation of horses, cattle, sheep, and swine into Canada. (*a*) Grades and stockers; (*b*) purebreds?
3. The possibilities and development of a live stock trade with the West Indies, Mexico, South American republics and Newfoundland? (Introduced by E. B. Elderkin, Amherst, N.S.) Prof. G. E. Day, O.A.C., Guelph, Ont.
4. What relations should exist between racing associations and the national association? (Introduced by H. J. P. Good, editor of Sunday World, Toronto.)
5. Should stallions be registered and receive certificates of fitness from the National Association? (Introduced by Messrs. W. S. Spark, Yorkshire, Eng., and H. J. P. Good, Toronto.)
6. Should steps be taken to regulate the manufacture and sale of woolen goods in Canada? (Introduced by C. W. Peterson, Calgary, Alberta.)

7. Is it advisable to develop a dead meat trade with Great Britain? (Introduced by Mr. J. W. Wheaton, editor Farming World, Toronto, and Mr. Alex. Park, of Park, Blackwell, Toronto.)
8. Should the express companies operating in Canada be asked to give reduced express rates on purebred stock and birds? (Introduced by H. B. Donovan, editor Canadian Poultry Review and Kennel Gazette, Toronto, Ont., and Mr. C. W. Peterson, Calgary, N.W.T.)

The following has been designated by the department as the basis of representation:

1. The Minister and Deputy Minister, or the Commissioner and Deputy Commissioner, of Agriculture for each Province or Territory of the Dominion. In case one or both of these gentlemen cannot attend, the Minister or the Commissioner of Agriculture, as the case may be, is authorised to nominate a representative or representatives.
2. The president and secretary, or president and vice presidents, of each record association in Canada.
3. The president and vice president, or the president and secretary, of each live stock association in Canada receiving aid from a provincial department of agriculture, and having a membership of at least fifty members, paying an annual fee of one dollar each.
4. The president and secretary of any agricultural society in Canada, which has given as live stock prizes during the year 1903, $500 or upwards.
5. The president and secretary of any farmer's institute, farmer's club, farmer's association, or Dominion or subordinate grange in Canada, which has an actual paid up membership in 1903 of 100 members or more.
6. Two officers elected to represent any railroad company in Canada.
7. A representative of any packing house or incorporated stock yard company in Canada.
8. A representative of any woolen manufactory in Canada.

While the representation appears to be somewhat wide and not confined to breeders, a vast amount of benefit will doubtless accrue to Canadian live stock interests by reason of this move. The majority of the subjects to be discussed at the meeting have received much attention in every Province and Territory in Confederation, while others have been of special interest in only two or three of the Provinces. In some cases the Provincial live stock associations, which are now active bodies in each political division of Canada, have devoted much time and effort to investigating and discussing the questions at issue, and deputations have been frequently sent to the Provincial and Dominion Governments, praying that legislation be enacted regarding one or other of these questions. The difficulty heretofore has been that the interests and requests from the different provinces differed or clashed.

It is expected that the result of this convention will be the formation of a permanent organisation of some sort and that uniformity will be infused into the demands of the various divisions of Canada so that the breeders may go before the Dominion authorities presenting a united front and prepared to urge the same requests, which have previously been debated amongst themselves until a compromise has been effected reasonably satisfactory to all parts of Canada. A great future lies before such an organisation and it is devoutly to be hoped that the convention will be so successful that its permanency will be an assured fact.

OBITUARY.

It is with the deepest regret I have to record the death of W. R. Stewart, of Macleod, who has filled the office of president since the organisation of this association, and probably devoted more energy and hard work to promoting the interests of breeders in this country than any other individual in the West. It was perhaps fitting that when the

grim messenger so unexpectedly reached him, our late president should have been engaged upon the work of this association. Mr. Stewart died while in Eastern Canada on a delegation from this association. Needless to say, arrangements were forthwith made for a suitable wreath from the association to be placed on his coffin. The funeral took place at Guelph, Ont., the deceased's former home.

Respectfully submitted,

CHAS. W. PETERSON,
Secretary and Managing Director.

Offices of the Territorial Live Stock
Associations, Calgary, N.W.T.,
2nd January, 1904.

APPENDIX C.

TERRITORIAL SHEEP BREEDERS' ASSOCIATION.

Officers for 1903-4.

President.....G. W. Quick, Maple Creek, Assa.
First Vice President.....C. Blair, Maple Creek, Assa.
Second Vice President.....John A. Turner, Calgary, Alta.
Secretary-treasurer and Man. Director C. W. Peterson, Calgary, Alta.

Directors:
Jas. McCaig.....Lethbridge, Alta.
D. McKerracher.....Medicine Hat, Assa.
C. M. Smith.....Lacombe, Alta.
Ed Fearon.....Maple Creek, Assa.
Levi Harker.....Lethbridge, Alta.

Ex officio directors:
Hon. Dr. Elliott.....Commr. of Agriculture, Regina, Assa.
F. W. Hodson.....Dom. Live Stock Commr., Ottawa, Ont.

Auditors:
M. Morris.....Calgary, Alta.
W. H. Hogg.....Calgary, Alta.

Executive committee:
G. W. Quick.....Maple Creek, Assa.
C. Blair.....Maple Creek, Assa.
John A. Turner.....Calgary, Alta.
C. W. Peterson.....Calgary, Alta.

Members Territorial Sheep Breeders' Association for 1903.

Agricultural Society.....Gainsborough, Assa.
" " .....Prince Albert, Sask.
" " .....Moose Jaw, Assa,
" " .....Lacombe, Alta.
" " .....South Qu'Appelle, Assa.
" " .....Grenfell, Assa.
" " .....Arcola, Assa.
" " .....Maple Creek, Assa.
" " .....Wolseley, Assa.
" " .....Lethbridge, Alta.
" " .....Fort Saskatchewan, Alta.
Andrews, D. H.....Crane Lake, Assa.
Anderson, Wm.....Castleavery, Man.
Brown Bros.....Ellisboro, Assa.
Bremner, N, J.....Clover Bar, Alta.
Blair, C.....Maple Creek, Assa.
Dixon, Jos.....Maple Creek, Assa.
Eckford, A. H.....High River, Alta.
Fearon, Ed.....Maple Creek, Assa.
Ferguson, Jas.....Gull Lake, Assa.
Geary, Geo.....Innisfail, Alta.
Geddes, Malcolm.....Calgary, Alta.
Glennie, W.....Maple Creek, Assa.
Jackson, Jno.....
Mead Bros.....Pincher Creek, Alta.
Morren, Jas.....Walsh, Assa.
McCaig, J.....Lethbridge, Alta.

McLean, Peter ..... Gleichen, Alta.
Paisley, S. W.. ..... Lacombe, Alta.
Page Bros ....Maple Creek, Assa.
Quick, G. W..... " "
Secord, Richard... ..... Edmonton, Alta.
Smith, C. M ..... Lacombe, Alta.
Thompson, J. R..... Calgary, Alta.
Wilson, J. D..... ... .Forrest, Alta.
Wilson, J. M. .... " "
Wilson, Ivie..... .....Maple Creek, Assa.

REPORT OF THE SECRETARY.

Market and Range Conditions in 1903.

MR. CHAIRMAN AND GENTLEMEN,—I submit herewith the second annual report of the Territorial Sheep Breeders' Association

The year which has just come to a close was probably one of the most disastrous in the history of the sheep industry in the West. The winter of 1902-1903 was fairly favourable, but the destructive storm which swept over the westerly and southerly part of the Territories occurred at the most critieal time when lambing was in full swing. The result was a percentage of losses in lambing which flockmasters prefer not to discuss. The direct result of this disaster was to induce a number of our largest sheep owners to offer their flocks for sale and transfer their capital to cattle stock.

A large number of flocks have during the past few years been brought to Southern Alberta and Western Assiniboia from the overcrowded ranges of Montana and Wyoming and, with the rapid increase of breeding stock thus brought about, doubts arose in the minds of many flockmasters as to whether values in mutton would keep up to the standard of previous years once the production exceeded the demand from local sources and from British Columbia and the Yukon. Some of our largest breeding flocks during the past year, however, were sold for butchering and this has again resulted in a deerease of the breeding flocks, which will necessitate importing from New South Wales and the United States for some years to come to supply the demand for mutton in British Columbia and the Yukon. The Australian shipments ceased almost entirely last year by reason of our flockmasters marketing such a large percentage of young breeding ewes.

There is nothing new to report respecting the market for wool. Prices were as low, or lower, than ever. Sales are reported all the way from 5 cents per pound up to 10 and 11 cents in the grease. Wool is gradually sinking to the level of a by-product of the sheep industry upon whieh little or no dependence is placed for revenue. I report elsewhere upon the steps taken to bring about an improvement in the value of this produet.

Ram Sale and Sheep Show.

It was with grave misgivings that your directors made arrangements for the annual ram sale and sheep show. The depressed condition of the industry referred to above could not fail to injuriously affect this sale. However, the local breeders of pure bred sheep expressed their willingness to run the risk at having to sell at unprofitable prices and it is putting the matter very mildly to state that their patience was tried to the utmost.

While the first annual sheep show and auction sale held at Medicine Hat in the fall of 1902 did not prove an unqualified success, the association largely attributed this to the locality in which the sale was held and decided to go ahead with the sale annually, but to hold it in the centre of the sheep raising portion of the Territories. The sale of 1903 was held at Maple Creek on September 30th and the annual autumn sheep show was held at the same place the day before. The show was the event of the year among sheep breeders, the animals comprising the various classes being of a very superior quality. The sale was limited to rams, 75 being offered. The bidding was somewhat slow, considering the quality of rams for sale. The highest price at this sale was $15.00 and the average was $11.84, rather more encouraging for buyers than sellers.

It is not to the credit of our flockmasters that so little encouragement should be given local producers of pure bred rams. Grade rams brought over from Montana, of such a low quality that one wonders how breeders can be found to use them on any terms, apparently find a ready sale at prices very little below the average of the 1903 sale. A large number of Ontario bred rams are also shipped into the Territories annually and sell at from $15.00 to $18.00 or $20.00 a head. There certainly would appear to be no reason why all the rams the small number of breeders of pure bred sheep in the Territories are able to offer, should be sold at unremunerative prices. There would, therefore, appear to be plenty of room for educational work for the Territorial Sheep Breeders' Association to perform, and in this our association will doubtless have the active support of the Dominion Live Stock Commissioner, as well as the Territorial authorities and The Canadian Pacific Railway Company. The rules of the past year's ram sale were, with a few modifications, the same as those adopted the previous year and published in the report of last year.

The following were the conditions of the show :

Rules Governing Territorial Sheep Show.

1. The management will be under the control of the Exective Committee of the Territorial Sheep Breeders' Association.

2. All sheep are eligible to compete without the formality of entry. The registration number and name of the owner of each sheep to compete must be handed to the manager before judging commences.

3. The decision of the judge is to be absolutely final.

4. The ages of sheep will be computed to the first of January.

5. In sections of three entries, one prize will be awarded, in sections of four or more entries two prizes. In case there should not be a sufficient number of entries in any one section to qualify for a prize, the various sections of the class may be amalgamated and prizes awarded on the above basis. No championship shall be awarded unless there are at least three competitors and a total of not less than five entries of rams or ewes, as the case may be, in the class.

6. No money prizes will be given, but silver plate to the amount of the winnings and selected by the winner from the association catalogue, will be awarded instead. Championship and first prize plate will be suitably engraved.

OWNERS OF PRIZE WINNING SHEEP.

Second Annual Autumn Sheep Show, Maple Creek. September 29th, 1903.

Long Wools.

Ram, shearling or over.

1st. .... J. R. Thompson, Calgary, Alta.
2nd ....J. R. Thompson, Calgary, Alta.

Ram Lamb.

1st.....J. R. Thompson, Calgary, Alta.
2nd.....J. R. Thompson, Calgary, Alta.

Oxford Downs.

Ram, two shears or over.

1st.....C. M. Smith, Lacombe, Alta.

Shearling Ram.

1st.....C. M. Smith, Lacombe, Alta.
2nd.....C. M. Smith, Lacombe, Alta.

Shropshires.

Ram, two shears or over.

1st.....J. A. Turner, Calgary, Alta.
2nd.....Canadian Land & Ranche Co., Crane Lake, Assa.
3rd.....Canadian Land & Ranche Co., Crane Lake, Assa.

Ram Lamb.

1st.....C. W. Peterson, Craighurst Farm, Calgary, Alta.
2nd.....C. W. Peterson, Craighurst Farm, Calgary, Alta.

Championships.

Ram, any age, open.

C. W. Peterson, Craighurst Farm, Calgary, Alta.

Ram, any age, bred in Territories.

C. W. Peterson, Craighurst Farm, Calgary, Alta.

This show was held in co-operation with the Maple Creek Agricultural Society's fair, our association taking charge of the sheep classes entirely. The arrangements worked out most satisfactorily, and our thanks are due to the officers of the Maple Creek society for the interest they took in the matter and for much valuable assistance accorded us. The judging of the various classes was most satisfactorily performed by Mr. S. W. Paisley, of Lacombe.

It is quite apparent that neither Medicine Hat nor Maple Creek are favourable points for a ram sale at the present time. It might be worthy of consideration whether it would not be good policy to hold the present year's sale at Lethbridge. A large number of sheep are now ranged east and south of Lethbridge, and probably the sheepmen of that district might feel more inclined to support the association sale than the flockmasters of other portions of the Territories.

The Marking of Textile Fabrics.

I referred in last year's report to the depressed condition of the woollen manufacturing industry all over the world and its influence

upon the prices of raw wool. I pointed out that this depression is not by any means confined to Canada, but is equally as marked in Great Britain, the United States, France and Germany, whose woollen trades appear to be as demoralised as our own. The situation in Great Britain has become so strained that a great many firms have gone out of business, while in France the woollen manufacturers have frequently converted their mills into the manufacture of cotton goods. All sorts of speculations have been indulged in as to the reason or reasons for this unfortunate state of affairs and various causes have been blamed, such as over-production, high prices of raw materials, but all authorities on the subject agree that the principal cause is undoubtedly the wholesale adulteration of woollen goods and the competition of animal hair and cotton, principally the latter. I also called attention to the statement made by the National Association of Wool Manufacturers of the United States to the effect that the use of cotton goods as a substitute for wool has been increasing enormously of late years. The progress which cotton manufacturers have made in the direction of imitating various makes of woollens has been almost beyond belief. Even with cotton at 10 cents per lb. the difference between that and wool at 50 cents per lb. is so great that it encourages the use of more or less cotton in fabrics which will not command prices that will allow a fair return provided the material used is all wool.

In accordance with a resolution passed at the first annual meeting of the association the undersigned drafted a bill providing for the marking of all textile fabrics showing the constituent fibres thereof. This bill was duly forwarded to Walter Scott, Esq., M.P. for Western Assiniboia, and was reproduced in full in last year's report.

Mr. Scott duly introduced the bill in the House of Commons, but owing to the fact that this matter affected trade it should have been introduced by resolution and as this procedure had not been followed, it met an untimely fate The following letter from Mr. Scott explains itself:

You will probably already have seen in the press reports an account of the untimely fate which befell our bill to provide for the inspection of woollens. I send you herewith a few copies of Hansard from which you will obtain perhaps a more accurate understanding of the matter. On page 3286 you will find the ruling given by Mr. Speaker against Mr. Bickerdike's anti-cigarette bill. The same rule was made to apply to our bill. It was unfortunate for the measure that it came up on the same occasion as the anti-cigarette bill, otherwise I do not think the question of procedure would ever have been thought of.

It will, I think, be useless to attempt to proceed further at this session for there would be no prospect at all of starting at the beginning now and getting the bill through all the stages. While I regret that the opponents of the measure were prevented from stating the reasons which they have to urge against its passage, the fact remains that about all was accomplished that I expected could be accomplished at this session. If I am here next year I shall then be prepared to again introduce the bill and will then have the advantage of what has been learned this session.

During the year I have taken very considerable interest in this question and have gathered further information which has led me to modify my views with respect to the shoddy question.

It is instructive to examine the trade statistics of the United Kingdom and the United States. The consumption of wool in the United Kingdom is continually growing, and amounts now to more than 13 lb. per head of the population per annum. It is estimated that the amount of raw wool retained for consumption in the United Kingdom and in the United States since 1880 has been as follows:

Year	In United Kingdom.	In United States.
1880	371,000,000 lb.	331,681,000 lb.
1890	427,000,000 lb.	385,671,000 lb.
1900	498,000,000 lb.	437,003,000 lb.
1901	541,000,000 lb.	465,536,000 lb.

The imports of woollen rags into the United Kingdom were:

In 1880	92,279,000 lb.
In 1890	77,636,000 lb.
In 1900	68,757,000 lb.
In 1901	66,936,000 lb.

In the year 1900 Great Britain exported 12,938,000 lbs. and in 1901 10,761,000 lbs., thus leaving a net import for each year of about 56,000,000 pounds. It is not possible to arrive at the amount of shoddy produced at home with any degree of accuracy, but it is estimated at 64,000,000 lbs., which, with the import, gives a total consumption of 120,000,000 lbs.

The consumption of shoddy in the United States in 1900 was 71,500,000 lbs., or 16·33 per cent. of the raw wool. Of this quantity 34,500,000 lbs. was imported, and 37,000,000 lbs. made at home.

A summary of these figures works out as follows, so far as the year 1900 was concerned, a year, it will be noted, when the British consumption of wool was below the average of recent years:

	Pounds.
Consumption of wool:	
In the United Kingdom	498,000,000
In the United States	437,000,000
Consumption of shoddy:	
In the United Kingdom	120,000,000
In the United States	71,500,000
Total wool and shoddy	1,126,500,000

It will be seen that the proportion which shoddy bears to the total consumption of material is a trifle under 17 per cent. for the two countries together.

The position of the linen trade is shown by the following statistics of the production of goods (in millions of yards) annually:—

Period	England	Scotland	Ireland	Total
1791-1800	13	22	42	77
1821-1830	24	60	90	174
1861-1870	54	140	204	398
1891-1893	42	130	172	344
1895				400

The Yorkshire Daily Observer gives the value of the output of cotton goods as £79,922,000, of which amount £65,903,000 went for export.

By way of clearing up some misconceptions it may be as well to put into concise form what is the true meaning of the various names of goods in everyday use in the wool industries.

"Woollen" is the name given to fabrics made from short, fine wool. The wool is carded and spun in such a manner as to cause the fibres to intersect each other and become involved, so that the yarn is as bulky as possible and is fluffy or spongy.

In woollen goods the weave or make is not visible. They are milled and finished with a smooth surface as in broadcloth, or left rough as in cheviots and tweeds, or they have the nap raised as in flannels or blankets.

Most of the wool for use in the woollen trade is imported.

"Worsted" is the name given to goods made from long wool. The preparation and spinning of the yarns is the reverse of that practised in woollen. The wool is combed for the purpose of separating the long fibres from the short. The long portion is called tops, and is used in the worsted manufacture. The short is called noils, and is sold to the woollen branch. The tops pass through a number of processes, which may be described as persuasive, to cause the fibres to lie flat and parallel.

In worsted goods the weave or make is distinctly visible. All the British long and half-bred wools are used in this branch of the trade or in worsted stuffs.

"Worsted stuff" is the name of the most important class of goods in the ladies' dress trade. The weft yarns are worsted, spun in exactly the same manner as in the worsted trade proper, but the warp is cotton, which is used to secure greater lightness and strength. The presence of cotton in these goods is avowed and evident. The wools used are the same as in worsted, with the addition of alpaca, mohair, camel hair and cashmere.

"Shoddy" and "Mungo" are names of wool which has been used before.

Shoddy is produced by picking to pieces woollen or soft rags or soft spun yarns, such as stockings and other hosiery, including tailors' and hosiers' cuttings, and the yarn waste made in the mills.

Mungo is produced from hard rags, out of worsted or worsted stuff goods, and is consequently longer and coarser than shoddy.

The cotton or any other vegetable matter in these rags is destroyed by a process known as carbonising or extracting. The rags are dipped in dilute sulphuric acid and afterwards dried by hot air, when the cotton is beaten out as a powder. Shoddy rags go through the same process when there is any suspicion of the presence of anything that is not wool. It will be seen from this that goods made from shoddy and mungo ought usually to be in good sanitary condition. After being extracted, the wool is carded and spun just in the same manner as it was in the first instance. The value of this second-hand wool is, for the best qualities, about twice that of the average value of the English clip, but, just as in the case of first-hand wool, there is a great variety of prices. Some of it is mixed with the raw material for making the very finest cloths, for various reasons, of which prices is not always the principal. Some of it is used to form the back of worsted coatings to give weight and warmth. The cheaper sorts are "scribbled" together with cotton before spinning or are spun alone and woven with a cotton warp. The goods thus produced are called Union Cloth.

Shoddy and mungo are not used with English wool, and, speaking generally, they are not used in either branch of the worsted trade. All the fabrics which are popularly known as ladies' dress goods are entirely free from shoddy. What are known as tailor-made costumes and dresses belong to the woollen branch, and therefore may contain shoddy.

It cannot be too clearly understood that this article is consumed entirely in the manufacture of woollens, and is consequently generally worn by men.

The names given to the various cloths produced in the woollen trade are too numerous to mention here, and, as a rule, convey no idea of what

material they consist of, as the name is usually descriptive only of the method of construction. There are, however, some exceptions. For instance, flannel is the name of a particular "make" of goods which are composed entirely of wool, whereas flannelette is the name of the same "make" composed entirely of cotton.

Some of the names of woollen goods will, however, be quite familiar, such as pilot, president, nap, witney, melton, vicuna, army cloth. Any of these may contain shoddy, especially the low priced ones. As shoddy is wool, it is not possible to detect it, when once mixed in, by any chemical or microscopic test.

The union cloths are also given the same names as in the woollen trade when made the same way, together with such names as backed worsted and serge, duffel, twill, fancy costume cloth, etc. These contain cotton either scribbled or carded into the shoddy weft, or made of pure shoddy weft with a cotton warp. The presence of cotton is easily detected, and there is no excuse for ignorance in the matter on the part of any tailor or dealer in cloth. Dilute sulphuric acid will burn out the cotton and leave the wool. Caustic soda will destroy the wool and leave the cotton.

For a small fee the Bradford Conditioning House (a municipal institution established by Act of Parliament) will give a certificate not only as to whether a cloth is all wool or not but also what percentage of cotton or other vegetable matter it contains. Any person can form an idea for himself by picking the cloth to pieces and applying a lighted match to the threads. Cotton blazes up quickly and has but little smell, wool scorches and forms a cinder and gives off a pungent odour which is easily recognised.

It is understood that ample provision is made under the British Merchandise Marks Act to protect consumers against the fraudulent marking of goods as "all wool" that contain wool substitutes (not including shoddy, which is, as a matter of fact, pure wool re-used).

The following extract from the address of the President of the National (U.S.) Wool Growers' Convention which was recently held in Oregon, Wash., throws some further light on this subject, which is a live one in the States.

As wool manufacturing is a twin industry with wool growing, we will examine its latest record for a moment.

In wool manufacturing the changes during the same period have been many, though of a different character, the base or location, rather, of operation has not shifted to the same extent as in woolgrowing, the larger percentage of the manufactories remaining in the same or kindred localities. But the styles of goods, the materials used in their manufacture and manner of doing business, have changed as much, and possibly more than has woolgrowing. Formerly it was 'all-wool goods,' and 'all wool' meant all new, fresh wool directly from the sheep's back—or it was cotton warp and wool filling; or it was a cotton imitation felted with 'flocks;' or perhaps a combination of all these. Cotton was then, as now, cheaper than wool; silk, more expensive; and both were much less used as substitutes. Shoddy as it was known then and as perhaps as erroneously called now meant flocks, or a fine fluffy substance without real fibre or staple, which was sort of plastered on, rather than woven into the goods and which, in the wearing of the cloth, soon became released, and gathered or bunched in the lower extremities of garments between the outer cloth and lining.

In earlier years the colouring of cotton as successfully as wool was considered impossible, or at least not well understood, while with later inventions and experience it has become a fine art, well understood, successfully applied, and there seems no infallible way for anybody to detect cotton from wool nor to be able to judge of the percentage of each in a given piece of cloth. In fact, it has been stated most earnestly by manufacturers, and at times when there seemed

no point of argument to make, that the manufacturer himself, in the making of many cloths, is unable to say, when a piece is finished, what are the percentages of each constituent part, although the percentage of each, when starting, were well known. The consuming public, or a large percentage of it, is constantly in search of cheap goods—that is, goods that can be bought for a low price—and of course showy, or at least presentably appearing goods. In the strife to meet this demand, and with research and invention and the cupidity of man, the practice has grown to use and re-use, again and again, every fibre of wool when once brought into the world. Every piece of old woollen clothing, upholstering, carpeting, and in fact about every product of wool, is made to serve again and again, and over and over, each time being picked up, renovated, foreign substances burned out, etc., until the immortality of man, and even eternity itself, seems scarcely more enduring and indestructible than is wool fibre, so that you may expect to see the wool in your coat of today made up in different form and still in use by coming generations, until Gabriel blows his horn. Therefore, instead of actual consumption of each year's growth of wool, as soon as the same is made into clothes, and the garments therefrom cast aside as 'worn out,' we are really losing from the actual usable supply of wool only that small percentage which goes off in dust or is washed away in manipulation of making old woollens into new woollen fabrics. Hence it is, that, notwithstanding the great increase in population, the growth of the nation and the ability of the consumers (never greater) to buy plenty of clothing, and good clothing if they prefer it, the percentage of new wool used, compared with the total yardage of goods worn, seems to be growing less, rather than more, and wool is lower in the markets than a large majority of the flockmasters feel they can afford to produce it for."

It is possible that a tariff adjustment might have the same effect as legislation providing for the proper marking of textile fabrics. The history of the provisions of the Dingley tariff in the United States as far as it relates to wool manufacturing is instructive. The following figures, taken from the United States statistics of commerce and navigation for 1902, and issued by the government, show that the imports of all waste products, which include rags, mungo, flocks, shoddy and all waste produced in the many wool and manufacturing processes, amounted in 1902-3 to but 330,956 pounds, with a foreign value of $97,477.00, an average of 29·4 cents a pound. Since the Dingley tariff went into operation, August 28, 1897, up to June 30, 1903, the total quantity of these materials imported and entered for consumption amounted to only 1,912,606 pounds, valued at $524,854.00. The greater part of these materials consists of high grade mill wastes, which have never been manufactured into fabrics. For the almost six years, from August 28th, 1897 to June 30th, 1903, the average imports of these waste products owing to the high rate imposed by the Dingley Act, has been but 318,767 pounds. England's average yearly importations of rags alone being 230·44 times the average yearly imports of all waste products into the United States.

A national convention of live stock breeders assembles at Ottawa in March next and the undersigned has given notice of the introduction of a discussion on the subject of the marking of textile fabrics and the use of wool substitutes. It is to be hoped that this important body may take an interest in the matter and have the most practicable and effective remedy applied which circumstances admit of.

Respectfully submitted,

CHAS. W. PETERSON,
Secretary and Managing Director

Offices of the Territorial Live Stock
Associations, Calgary, N.W.T.,
1st February, 1904.

APPENDIX D.

TERRITORIAL SWINE BREEDERS' ASSOCIATION.

Officers for 1903-4.

President .. .. Dr. J. B. Harrington, Lacombe, Alta.
First vice president.. ..... W. E. Smith, Gillingham, Alta.
Second vice president ..... C. Gallagher, Edmonton, Alta.
Secretary treasurer and managing director ..... C. W. Peterson, Calgary, Alta.

Directors :
A. B. Potter.. ..... Montgomery, Assa.
T. Russell.. ..... Lacombe, Alta.
H. F. Flewwelling..... Lacombe, Alta.
Fred Butcher ..... Lacombe, Alta.
J. C. Pope..... Regina, Assa.

Ex-officio directors :
Hon. Dr. Elliott. ..... Commissioner of Agriculture, Regina, Assa.
F. W. Hodson. ..... Dominion Live Stock Commissioner, Ottawa, Ont.

Executive committee :
Dr. J. B. Harrington..... Lacombe, Alta.
W. E. Smith ..... Gillingham, Alta.
C. Gallagher..... Edmonton, Alta.
C. W. Peterson ..... Calgary, Alta.

REPORT OF THE SECRETARY.

MR. CHAIRMAN AND GENTLEMEN,—I have much pleasure in submitting herewith my report upon the transactions of The Territorial Swine Breeders' Association for the year 1903, being the first annual report.

Organisation.

Acting under the instructions of the Hon. G. H. V. Bulyea, then Territorial Commissioner of Agriculture, an invitation was issued to swine breeders throughout the Territories to meet at Lacombe, N.W.T., on the 4th of March, 1903, for the purpose of organising a Territorial association of those interested in swine breeding. I attended this meeting, which duly took place on the date mentioned, and found there a large and representative audience. P. Talbot, Esq., M.L.A., occupied the chair and explained the object of the meeting. The undersigned then outlined what had been done by other live stock associations in the Territories and elsewhere. As a result the desired organisation was effected, constitution and bylaws adopted and officers for the year elected,

Record of Pure Bred Swine.

At the organisation meeting the following motion was unanimously passed: "That the Secretary be authorised to start a record for the registration of pure bred swine to be called 'The Western Canadian Pure Bred Swine Record' and that the said record be administered along the same lines as 'The Western Canadian Pure Bred Sheep Record.'" In accordance with this resolution arrangements were made by the undersigned during the year to establish a register of pure bred swine of all breeds in the offices at Calgary. As a preliminary step the following letter was sent to every breeder of pure bred swine throughout the Territories, some 500 in all, inviting them to become members of the new association and to register their stock in the association record:

I have much pleasure in informing you that The Territorial Swine Breeders' Association which was formed early in the year, is now prepared to register purebred swine of all breeds in The Western Canadian Purebred Swine Record. The annual membership fee of this association is only one dollar and as it has been formed for the purpose of furthering the interests of western breeders it should be supported by every farmer who owns swine. I enclose a copy of the constitution and bylaws and also a form of application for the registration of swine. A further supply of the latter will be mailed on application.

This is the age of organisation and if the breeders of the West desire to have their interests protected, it behooves them to act in a practical manner on the principle that "in union is strength." I therefore trust you will lose no time in joining the new association and give us the benefit of your influence and support.

Applications for registration are now coming forward in a very satisfactory manner and up to the present upwards of 50 pedigrees have been recorded. It is satisfactory to note that breeders from all parts of the Territories have expressed their appreciation of the move taken by the association in this direction and the probability is that, as the production of purebred swine increases in the Territories, a large number of pedigrees will be recorded annually in this record.

Express Charges on Live Stock.

This is a matter in which every breeder of purebred swine is interested. At present express rates are practically prohibitive and this association, in conjunction with the Sheep Breeders' and Poultry associations, might very properly interest itself in this question. Until some reductions are made our breeders must content themselves with doing practically a local business only and it is not in the best interests of the swine industry that farmers should be prohibited by excessive rates from getting superior breeding stock from a distance. As long as the Territorial Department of Agriculture is prepared to conduct periodical sales of purebred swine throughout the country the hardship to the farmer is probably not so great, but chances are that this policy may not be adopted again.

President Mills, of the Ontario Agricultural College, made the suggestion some time ago that a movement should be made by the farmers of Canada to agitate for the nationalisation of the express service. The idea seems worthy of discussion. Present express rates are simply extortionate. To create an express service in connection with the existing postal department would be a comparatively small affair. The machinery is already in existence; an addition to a few central buildings and to the number of employees is all that is called for. There is nothing revolutionary in the proposal. The National Grange is asking for the same thing in the United States and in conservative England a

service of this kind is already in operation. With our express business nationalised it would be possible to take a shipment to any postoffice on rail line and have the same delivered to the consumer more promptly and at very much less cost than now.

Territorial Fat Stock Show.

The possibility of joint action on the part of the various Territorial live stock associations, having in view the establishment of an annual fat stock show at some central point, was a matter which received some discussion at the organisation meeting of this association. It would certainly appear that the time has come when such a very necessary and instructive institution should be called into active existence. Bacon production is bound to become an industry of considerable importance in the West and nothing would stimulate breeding to the proper type, upon which the success or otherwise of this industry rests, than a central show where breeders from all over the West could meet with their best stock in friendly competition. It is to be hoped that this proposal may assume definite form during the coming year.

Respectfully submitted,

CHAS. W. PETERSON,
Secretary and Managing Director.

Offices of the Territorial Live Stock
Associations, Calgary, N.W.T.,
1st January, 1904.

APPENDIX E.

TERRITORIAL NATURAL HISTORY SOCIETY.

Officers for 1904.

President.....Percy B. Gregson, Blackfalds, Alta.
Vice president.....F. H. Wolley Dod, Millarville, Alta.
Second vice president.....Henry George, M.R.C.S., Innisfail, Alta.
Secretary treasurer.....T. N. Willing, Regina, Assa.
Directors.....The presidents of local branches.

Ex-officio director:
The Commissioner of Agriculture.

Curators:
P. B. Gregson, Blackfalds; J. Boyce, B.A., Calgary; and T. N. Willing, Regina.

ANNUAL MEETING.

The first annual meeting since the reorganisation of the society was held at the Alexandra Hall, Calgary, on 18th February, 1904. The chair was taken by the president, who opened the meeting with a short address. Letters of regret at inability to attend were received from several members. The attendance was fairly large, the pupils of the school being well represented. A large number of lantern slides, representing the various stages of insects injurious and beneficial, were used to illustrate their life histories briefly outlined by Messrs. Gregson, Wolley Dod and Willing. A very interesting and instructive address was given by Dr. George on the birds of prey, and a paper on the insects of the year was presented by Mr. F. H. Wolley Dod. The meeting then partook somewhat of a conversational nature, birds' eggs, pictures of birds, and mounted specimens of poisonous weeds being displayed. Order being called the minutes of the previous meeting were read and confirmed, and the financial statement presented. It was proposed and carried that section 3 of the constitution be annulled and the following substituted: "Local branches of this society may be formed with power to elect their officers and the president of each such branch shall be a director of this society." The following congratulatory communication from a kindred society was received and read: "Moved by E. Baynes Reed, seconded by Dr. C. F. Newcombe, and resolved: That the members of the Natural History Society of British Columbia have learned with much interest of the formation of the Territorial Natural History Society. They tender to the new society the most cordial and fraternal greeting, and express the hope that its future career may be useful, prosperous and progressive."

The election of officers for the ensuing year was then proceeded with and before closing the meeting a vote of thanks to the Department of Agriculture for the use of the lantern was proposed.

President's Address.

The following is a brief synopsis of the address of Mr. Gregson, who stated that, as so many of the young people present were impatiently waiting to see the lantern illustrations of insects, a new and important step in advance made by the society, he would curtail his remarks to ome extent. He spoke of the stimulus given to nature study in Northern Alberta by the liberality of Dr. Fletcher, of the Ottawa Experimental Farm, in continuing to offer prizes for competition by the young people, and announced that the winners of these prizes in the season just past were Miss Nellie E. Clare, of Edmonton, for the best collection of weeds and other plants, and Master Dalton Tipping, of Blackfalds, for insects of economic interest. Both of these collections were highly meritorious and showed considerable skill in the preparation. Mr. Gregson reviewed the work done in his district, mentioning eleven excursions with pupils, one address on entomology to pupils at Red Deer school, three addresses on the same subject to pupils at Lacombe school, when cases of insects of economic interest were shown and donated to the schools, and one address on weeds and other plants at the Lacombe school.

The president then referred to the part which insects play in the fertilisation of flowers. If there were no insects the majority of our flowers would soon become extinct. Flowers are male and female, and to understand the service rendered by insects let us examine the common buttercup. In the centre of all is the female portion which contains the embryo seeds enclosed in what are called carpels. These carpels together form the pistil. On each is a point which is rough and moist known as the stigma, and on it may be found adhering minute grains of pollen dropped from the anthers which, with their slender filaments, represent the male portion. In some flowers when the anthers are ripe and burst the yellow pollen can only be brought in contact with the stigma by the unintentional action of the insects while feeding on the nectar within the blossoms. On their bodies the pollen is carried from flower to flower, thus fertilising ovules which otherwise would never produce fruit. Crops of national importance are dependent on the good offices of insects for fertilisation by insects. A few years ago it was impossible to produce Smyrna figs in California, the fruit dropping off before maturity. The attention of the official entomologists of the United States was drawn to the repeated failure of the fig crop, and they decided to import to California a number of very minute "bud eating fig gall flies" found on wild fig trees in Smyrna. For over 2,000 years these little insects have fertilised the figs in Asia. Herodotus writes that the people who cultivated figs used to hang buds of the wild fig near the cultivated trees and the gall flies escaping would enter the buds and effect the necessary pollination. After the example of the ancients, figs containing these flies were imported and suspended under a fig tree with the result that several thousand flies escaped and made their way to the surrounding trees, and now the fig crop of California is of national importance. Another instance is the fertilisation of clover by bees. The formation of the clover blossom is such that its production of seed is dependent almost entirely on bees. For years the cultivation of red clover, *Trifolium pratense*, was attempted in Australia and New Zealand, but was a failure until in 1886 the common bumble bee was imported

for the express purpose of effecting the fertilisation of the blossoms. Hibernating queens, for which 24 cents each were paid, were packed in moss placed in cold storage while being transported and gradually revived upon approaching their destination, whcre they were set free. The bees multiplied rapidly and spread over the whole of the country, the experiment proving so successful that abundance of seed is now produced there.

These are instances of applied entomology, or the application of a knowledge of insects to practical use. There are plenty of occasions when we in Alberta can apply such knowledge. It is reckoned that three wood boring grubs in one tree are sufficient to kill the tree. We should therefore protect insect eating birds. I am inclined to think that were it not for the birds our crops would hardly pay for the planting.

In the Red Deer district a specimen of the notorious Colorado beetle, *D. 10-lineata*, was found by a farmer on his potatoes; the larvæ of the diamond-back moth, *P. cruciferatum*, denuded the turnip fields; the onion root maggot, *P. ceparum*, was bad locally, as was also the turnip root maggot. Horse bots were extremely prevalent, as were also ox warbles, of which I counted 175 in one dead cow. The dark swallow tail butterfly, *P. nitra*, was abundant locally, 16 being taken in a space of half an acre in a hilly glade of poplar. Larvæ of the Arctian moth, *A. virgo*, were plentiful on willows and poplars. There was less evidence of injury to poplars by the beetle, *G. pallida*, than in 1902. I might perhaps also mention that I took one specimen of *Leptura vexatrix, Mann.*, last summer. This is a rare insect, and its previous capture in Alberta has only been recorded once previously, when one was taken by me in 1902.

Insects (Lepidoptera) of the Year 1903.

(By F. H. Wolley Dod.)

The season of 1903, though exceptionally cold and wet, and preceded by one equally cold and with even a heavier rainfall, has been, from the scientific entomologist's point of view, in this district of Alberta, one of the most successful known for several years. It is noteworthy that though a number of species which are usually more or less common were conspicuous by their scarcity, there are a larger number than usual of species to be recorded that are not known to have been previously captured in the locality, and several of these turned up in some numbers. Such insects as are new to the district have not, unfortunately, been yet identified; but good examples of nearly all of them are now in the hands of specialists and will in all probability be reported upon at no distant date. It is anticipated that several of them will prove to have been hitherto unknown to science. This latter supposition is firmly supported by precedent. Practically nothing was known ten years ago of the *lepidopterous fauna* of Alberta, with the exception of the immediate vicinity of Laggan, where Mr. Thomas Bean, whose name is well known amongst entomologists, collected assiduously for several seasons previous to 1895. It was therefore only to be expected that collectors who worked in other parts of Alberta would be able to add new names to the North American lists. But it has also been found that every subsequent year's collecting, even in exactly the same spot, has discovered insects, sometimes common, that have not been met with in that spot in any previous year or years, and in every year so far something has been named that had not been named before.

There are fortunately not many *lepidopterous* insects injurious to agriculture or vegetation to be recorded. One species, however, caused depredation amongst the poplar trees which was most obvious to anyone living in the infested districts, though few people seem to have connected the nudity of hundreds of acres of poplar "bush" in the month of May and June with the ravages of an insect. I refer to the moth known to science as *Rachela bruceata*, belonging to that class of "geometers" or "loopers" popularly known as "winter moth." The eggs of this moth are laid during the month of October, probably on the undeveloped buds which begin to form on the poplar twigs before the leaves have fallen. These eggs hatch in the early spring, as soon as the buds begin to open, and the caterpillars or larvæ are sometimes, as they were last spring, in such vast numbers as to devour the young leaves at just about the same rate as nature is able to produce them, with the result that the leaves are unable to form at all. The larvæ when full grown are not quite three quarters of an inch long, and in colour are varying shades of green. They have a habit, in common with nearly all others of their family, of letting themselves down from the leaves by threads, somewhat after the manner of spiders. This thread suspension is for the purpose of saving themselves from a fall when they lose their "foothold," as it might be called, on the leaves or twigs as the result of a sudden jar or gust of wind. In the hills in the Millarville and Priddis districts hundreds upon hundreds of acres of poplars were completely denuded by these caterpillars, though their ravages were confined to certain patches, thus giving rise to the perhaps not unnatural supposition by the casual observer from the distance, that the trees had been killed out in certain spots by the previous year's abnormally heavy rainfall, or some cause of like nature. The larvæ enter the ground about the end of June or in early July, and these turn to chrysalids from which the moths hatch out in the end of September and throughout October. The males of this moth have a wing expanse of about an inch, and are yellowish brown in colour. The females have no wings, and might be mistaken by the uninitiated for a kind of spider. Willow bushes were also attacked by these larvæ, but not nearly to such an extent as the poplars.

The only other members of the moth tribe whose larval stages were conspicuous to the ordinary eye were the Diamond-backed moth (*Plutella cruciferatum*, which did some damage to leaves of turnip, cabbage, and other plants of this tribe, and *Peridroma occulta*, the larvæ of which were to be seen in some numbers during the latter half of May on the ends of willow twigs in the daytime. The larvæ are night feeders. but those seen in this position during the day had been attacked by a kind of parasitic fungus, and died therefrom. The caterpillars are dark brown, smooth and shiny, and when full grown about two inches long, and almost as thick as a man's little finger. The moth hatches during the latter half of July and throughout August, has a wing expanse of about three inches, and is a bluish gray in colour. The caterpillars of *P. cruciferatum* above mentioned, are about three-eighths of an inch in length, and are to be found on the undersides of turnip or cabbage leaves, in which they eat numbers of holes, often much to the detriment of the plant.

Another moth which is often a serious pest to the gardener in this district, the red-backed cutworm, was not this year in sufficient numbers to be much of a nuisauce. The caterpillars are dark green and dark red

and feed just below the surface of the ground, often cutting clean through the stems of young vegetables such as cabbages, peas, etc. The moth is one of the most variable in colour of any in all North America, varying from pale dirty yellowish, to dark red, so dark sometimes as to appear almost black. Some have numerous true black markings in addition, others none whatever. The moth hatches in September, lays its eggs in the same month, and the caterpillars hatch shortly afterwards, and pass the winter as caterpillars, commencing to feed again as soon as the ground begins to soften in the spring.

It is not proposed here to give too accurately detailed a list of all the species noticed during the year as being in one way or another of scientific interest. Such records are best left to magazines devoted strictly to entomology, and are of special interest to the "working entomologist" only. It will suffice to mention a few of those which, though hitherto scarce in the district, were noticed in comparative numbers last season: *Dargida procinctus, Lithomoia germana, Noctua treatii, N. inopinatus, Syngrapha ignea, Cosmia paleacea, C. punctirena Hillia crassis, H. algens, Hadena claudens, H. ferens, H. allecto,* were all found in greater numbers than hitherto. The larvæ of *Halisidota maculata* were observable in some quantity on poplar trees in Calgary gardens. They are about an inch and a half long, hairy, black at each end and yellow in the middle. The moth is brownish yellow and emerges in early June. Hitherto a single specimen only has been taken. Amongst the butterflies, with the exception of two small "skippers" (*Thymelicus garita* and *Pamphila mystic*) which were in considerable abundance, no species was noticed to be exceptionally common. But what is perhaps without doubt the most interesting species of all the butterflies or moths to be recorded for Alberta during the past season, is a *Chrysophanus*, or "Copper" as the family is popularly called, closely allied to, if not identical with, the species known in Europe as *phlœas* or the "small copper," common in England, and yet apparently distinct from the common Eastern American *hypophlœas*. About fifteen specimens of this were captured near the spruce bush at the head of Fish Creek in Southern Alberta. Six had been captured there or thereabouts in 1896 or 1897, but none since. A single bad specimen of *Chionobas macounii* was caught, and several more were seen. This is one of the greatest of North American rarities also, the only other recorded locality for it besides Alberta being Nepigon in Ontario.

Birds of Prey of Alberta.

(By Henry George, M.R.C.S.)

I have taken as the subject of my paper "The Birds of Prey of Alberta." These are called *raptores* (or snatchers), because they seize hold of their prey or food by their feet, armed with powerful claws or talons, with which they tear to pieces the flesh on which they live. The *raptores* are divided into three classes: vultures, hawks, owls.

The vultures, unlike the birds in the other two groups, have not the courage to attack living prey, preferring carrion and animals in the throes of death unable to make a stand for their lives.

The hawks and owls, on the other hand, bravely attack prey larger than themselves and are often ugly customers to tackle when wounded or unable to escape.

The chief characteristics of the *raptores* are their fierce, wild eyes, their strength and power of flight, and their strong and hooked beaks and talons. Most of them are very handsome birds and inspire respect and admiration. One curious point about them is that the female bird, as a rule, is larger than the male. I am sorry to say that, as the country gets settled up, these useful birds seem to disappear and become scarce.

The vultures in Alberta are represented by one species only: the turkey vulture, or buzzard (*Cathartes aura*).

The hawks are divided into three groups:—(1) The *accipitrines*, or kites, buzzards, hawks, goshawks, eagles, etc.: (2) the falcons, proper; (3) the *pandionina*, or ospreys.

The *accipitrines* are represented in Alberta by the following birds: The marsh hawk, the sharp-shinned hawk, the American goshawk, the red-tailed hawk, the western red-tailed hawk, the Swainson's hawk, the American rough-legged buzzard, the ferruginous rough-legged buzzard, the golden eagle, the bald eagle.

The falcons proper are represented in Alberta by the following birds: The peregrine, the pigeon hawk, the Richardson's merlin.

In the third class of hawks we have the American osprey, or fish hawk.

The third group of *raptores* are the owls. In this class are: The American long-eared owl, the American short-eared owl, the great grey owl, the Arctic American saw-whet owl (or Richardson's owl), the Rocky Mountain screech owl, the great horned owl, the western horned owl, the Arctic horned owl, the snowy owl, the American hawk owl, the burrowing owl, the pigmy owl.

This paper is specially prepared for the purpose of pointing out to the farmers and sportsmen those hawks and owls which should be destroyed, and those which should be entirely, or partially, protected.

I find that the number of rapacious birds, that do nothing but harm, and which should be destroyed, are very few. In Alberta there are only five. They are: The American goshawk, the sharp-shinned hawk, the peregrine falcon, the American osprey, the American hawk owl.

There are two kinds which do nothing but good, and accordingly should be preserved. They are the American rough-legged buzzard and the ferruginous rough-legged buzzard.

Of the rest those that seem to do a lot of good in ridding the farmer of noxious vermin and insects are the marsh hawk, the red-tailed, Swainson's and sparrow hawks, the long-eared and short-eared owls, and Richardson's owl.

The remainder seem to do quite as much good as harm, viz.: The two eagles, the pigeon hawk, the great horned, western horned, Arctic horned and snowy owls. The Turkey vulture is wholly beneficial.

To take up the five rapacious birds that positively do harm, both to the farmer's poultry and the sportsman's game, I may repeat there are four hawks and one owl.

I take it that all these birds are found chiefly, if not entirely, in the bushy and wooded parts of Alberta, and not on the prairie.

The first one, the American goshawk, is one of the few hawks that remain all winter with us. It is a handsome bird, the head being nearly all black, the feathers bluish on the back, wings and breast, and the legs are grey with black specks and bars. It is often called the blue hawk, from its colouring. It is one of the boldest of the hawks, and will often pick

up and take away game shot by sportsmen before they have a chance to retrieve it. When raiding the poultry yard it is often driven away from its prey with difficulty by the indignant farmer's wife. It is death to prairie chickens and ruffled grouse, and it is the only bird that ever attacked me when taking its eggs. The male and female adults are similarly coloured, but the young birds are brown.

The American goshawk nests in poplar woods, generally in the deeper parts and away from habitations. The nest is bulky and untidy and only lined with bark, etc. The eggs are light blue, often fading to dirty white, frequently nest stained, but not spotted.

The sharp-shinned hawk has only come under my personal observation during the last two summers. Until then I was sceptical as to its presence in these parts. This is a small hawk, but just as bold and bloodthirsty and savage as its larger brethren. It is about ten inches long, bluish grey above, tail crossed by several black bars, the legs and feet yellow. Its chief prey are the young poultry, young grouse and any birds of a smaller size, useful or not. I see that Dr. Fisher says that it has only one redeeming feature, that of killing great numbers of pestilent English sparrows. It would be worth preserving for that alone. It is a handsome bird and very pugnacious for its size, often attacking birds much larger. If it once starts on a poultry yard it will return, again and again, until all the young chickens are taken, or itself fallen a victim to the farmer's gun. Their eggs are pretty, being bluish white splashed with different shades of brown.

The peregrine, or duck hawk, is to my mind, one of the handsomest of hawks. It is marked something like a goshawk, only black instead of blue, the breast feathers being white barred with numerous black lines from throat to vent. It is rare here, and I have only one set of eggs which were taken by John Sharples, on Sheep Creek, in 1890. The name duck hawk is derived from the fact that wild ducks are its favourite prey. It is often called " bullet hawk " from the rapidity with which it pounces upon its prey. The eggs, like most of the blue falcons', are red all over just as if painted This bird annoys the duck hunters far more than the farmers, but it is not plentiful enough to be taken into account as friend or foe.

The American osprey is the last of the injurious hawks. I myself am not satisfied in placing this among our foes, but I suppose if it were not so placed the lovers of the gentle art, followers of Isaac Walton, would cry aloud at the enormity of letting off their special foe, when the duck hunter's *bête noir* is put in the black list, for the chief food of this bird is fish. But what a handsome bird it is with its crested head! It seems a shame to kill any of them. This bird delights in a home to rear its young, and, if undisturbed, will nest for years in the same place. It has one rather nasty trick, that is compelling pelicans to drop their fish and appropriating the same themselves. The bald eagle in turn plays the same trick on these birds.

The only owl that I have condemned as wholly injurious is the American hawk owl. This is one of the few day owls, and I have watched it chasing prairie chickens in winter, the poor chickens screaming with fright, and their relentless but silent pursuer making great time after them. This owl has a long tail, is black and white and barred all over. This hawk owl is more in evidence in winter time, and plays great havoc among the grouse and rabbits. Its nesting place is

rarely found. The eggs are not remarkable, being like all the owl eggs—pearly white and almost as round as a marble.

Now, none of these birds affect farmers very much, except in winter when food is scarce, or at breeding time, when there are several mouths to fill.

A word or two about the rough-legged buzzard, as these are the farmer's friends, and do nothing but good. Their chief food is gophers and mice. They are large, like hawks, and their chief characteristic is that their legs are feathered right down to the base of the toes. Like the eagles, they nest all along the Bow river, and lay usually four eggs of a large size, which are handsomely coloured with brown and lilac. Occasionally they are seen in the winter, but they generally keep south of the snow line on account of their food supply.

This is only a short sketch to show that though a bird may be a hawk or an owl and a taker of lives yet it may, and does, do a great work in the economy of nature, and should not be ruthlessly destroyed, as it is in older countries. We have still the chance of preserving birds that have been exterminated in other countries, where now some of them would be welcome again even if they do a little damage.

I will now show you specimens of eggs and also some coloured plates of the hawks and owls of which I have been speaking.

BIRD Migration Notes.—Observations at Indian Head, Assiniboia, in 1903, by George Lang and Geo. C. Harvey.

NAME OF BIRD	When first seen	About how many	When next seen	When common	Common or rare	Does it breed near by	Remarks
Prairie horned lark	Feb. 22	3	Feb. 9	Mar. 1	C.	Yes	
Marsh hawk	Mar. 30	1	Apl. 2	Apl. 2	C.	Yes	
Junco	" 30	1	" 2	" 10	C.	No	
Crow	" 30	1	" 4	" 10	C.	Yes	
Canada goose	Apl. 4	6	" 8	" 15	C.	No	
Green-wing teal	" 4	4	" 15	" 15	C.	Yes	
Mallard	" 4	2	" 5	" 10	C.	Yes	
American sparrow hawk	" 6	1	" 8	" 20	C.	Yes	
Chipping sparrow	" 6	2	" 7	" 15	C.	Yes	
Blackbird	" 15	3	" 20	May 5	C.	Yes	
White-fronted goose	" 20	15	" 21	Apl. 21	C.	No	
Killdeer plover	" 20	1	" 21	May 15	C.	Yes	
Red-wing blackbird	May 5	1	May 6	" 20	C.	Yes	
Barn swallow	" 7	1	" 11	" 24	C.	Yes	
Chestnut-collar'd longspur	" 10	2 prs.	" 11	" 24	C.	Yes	
Curlew	" 10	1	" 11	.....	R.	No	
Bartramian plover	" 11	2	" 13	" 24	C.	Yes	
Black-bellied plover	" 11	20	" 14	.....	Fairly c.	No	Flocks seen at times till 1st June
Least sandpiper	" 12	4	" 14	.....	"	No	
Sandhill crane	" 15	12	" 16	" 16	C.	Yes	
Swainson's hawk	" 15	1	" 16	" 20	C.	Yes	
Flicker	" 15	2	" 16	" 24	C.	Yes	
Kingbird	" 16	4	" 19	" 24	C.	Yes	
Mourning dove	" 16	2	" 17	" 24	C.	Yes	
Lazuli bunting	" 18	1	.....	.....	Very r.	No	A native of California, never before seen
Cowbird	" 19	2	" 21	" 26	C.	Yes	
House wren	" 20	2	" 21	" 24	C.	Yes	
Kingfisher	" 21	1	" 22	" 24	C.	Yes	
Black tern	" 23	6	" 24	June 1	Fairly c.	No	
Blue heron	" 24	1	.....	.....	R.	No	
Goldfinch	" 24	2	" 26	" 26	C.	Yes	
Yellow-head blackbird	" 24	5	" 25	" 25	C.	Yes	
Baltimore oriole	" 24	1	" 25	" 25	C.	Yes	
Red-head woodpecker	" 24	1	.....	.....	R.	No	
Redstart	" 24	1	.....	.....	R.	No	
Yellow warbler	" 24	4	" 26	" 26	C.	Yes	
Hedge sparrow	" 24	1	" 25	June 1	C.	Yes	
Night hawk	" 24	6	" 25	" 1	C.	Yes	
Wilson's thrush	" 25	1	" 26	" 4	C.	Yes	
Robin	" 25	2	" 26	May 26	C.	Yes	
Barn swallow	" 25	1	June 4	June 15	C.	Yes	
House wren	" 26	2	May 27	" 6	C.	Yes	
Catbird	" 26	4	" 27	" 6	C.	Yes	
Burrowing owl	" 26	1	June 1	.....	R.	Yes	
Sora rail	" 27	2	May 28	" 6	C.	Yes	
Coot	" 27	12	" 28	May 28	C.	Yes	
Bittern	" 27	1	" 28	" 28	C.	Yes	
Cedar waxwing	" 27	5	June 4	June 12	Fairly c.	Yes	
Purple marten	June 2	1	.....	.....	R.	No	

Dr. George is authority for the following records in the Innisfail district where these birds have been seen for the first time:

A shoveller drake, entirely of a coffee and cream colour with the typical shoveller beak, was taken by Dr. Fry. An albino mountain

bluebird reported by Mr. Croxford. An evening grosbeak collected in November. The English sparrow has this year reached the Calgary and Edmonton line where it has established itself in several of the towns.

Mr. Willing reports that at Regina on the 14th September and succeeding days a number of redstarts were about his garden.

REPORT OF THE SECRETARY.

In the various branches of natural history members of our society have been working assiduously and adding to the available knowledge of the fauna of the country, as well as doing their best to interest young people in nature and nature's ways. Our constitution calls for special effort along the line of utilitarian research and educational work amongst the rural population. Knowledge of the plants, of the insects, and of the birds as they effect the crops on which the world depends for its bread, and its butter too, is well worth striving for. Insect pests levy toll, it has been estimated, on our crops to the extent of ten per cent., and weeds further reduce the profits both in the grain field and on the range. The properties, harmful or otherwise, of many of our native plants are still unknown, and even the names of the most common are not known to nine out of ten men. Birds that have been proved a benefit and a safeguard from the ravages of rodents and insects are being slaughtered daily through ignorance of the facts. Ample then is room and reason for the work of the society. The names on the membership roll number sixty-two, but some have not yet paid their fees. The expenditure for the past year was $91.25 which includes the payment of the indebtedness of the late entomological society to its president, assumed on organisation of this society, and amounting to $25.00; the balance was for necessary supplies and lantern slides. A grant from the Territorial Government of $100.00 was received which leaves a balance of $30.75 in hand. It is hoped that the number of members will be largely added to during the ensuing year and a fund provided which will permit the procuring of cases necessary for the proper display and safe storage of museum specimens. From Mr. F. H. Wolley Dod a donation of a number of named specimens of noctuids from his district for the Regina museum is gratefully acknowledged. A meeting was called for the evening of 10th July at Calgary in the Public School, by favour of the trustees, to give members an opportunity of meeting Dr. Fletcher who has taken such a keen interest in the welfare and work of our society. Those present listened to a very instructive and interesting address.

The notes on the migration of the birds here given are a beginning of what it is hoped will be made a permanent feature of our report, to be extended so as to cover all parts of the Territories when observers can be found. Only the spring migration has been recorded, but an effort to add a column for "When last seen" in the fall will be made.

In addition to the reports of Messrs. Gregson and Dod of injuries caused by insects during the year, I may add the diamond-back moth did considerable damage to turnips, cabbage and rape in the east and north as well as the west. The larvæ of a moth was observed in countless numbers devouring the lambsquarters a little north of Regina; it is probable that it was the sugar beet webworm, *Loxostegi sticticalis L.*, which was reported to be doing similar damage, if it can be called damage, in parts of Manitoba. In districts where the sugar beet is being

grown this would be a serious pest. Cutworms were troublesome in the gardens, one of the most abundant being the larvæ of *Chorizagrotis auxiliaris, Grt.* Aphids were abundant on the ash leaved maple trees about Regina, the honey-dew secreted by them attracting a multitude of moths and flies. The trees soon had a very dirty appearance from the development of a sooty fungus in the secretion on the leaves. The wheat in many fields in Assiniboia was also attacked by green plant lice ; this grain aphis was very abundant, but fortunately was checked by a parasite before serious damage was done. The Hessian fly was reported as affecting the wheat near Indian Head to a small extent. The potato beetle, *D. 10-lineata*, so well known as "the potato bug," was injuriously prevalent in Southern Alberta, and was also reported from Southern Assiniboia.

Respectfully submitted,

T. N. WILLING,

Secretary.

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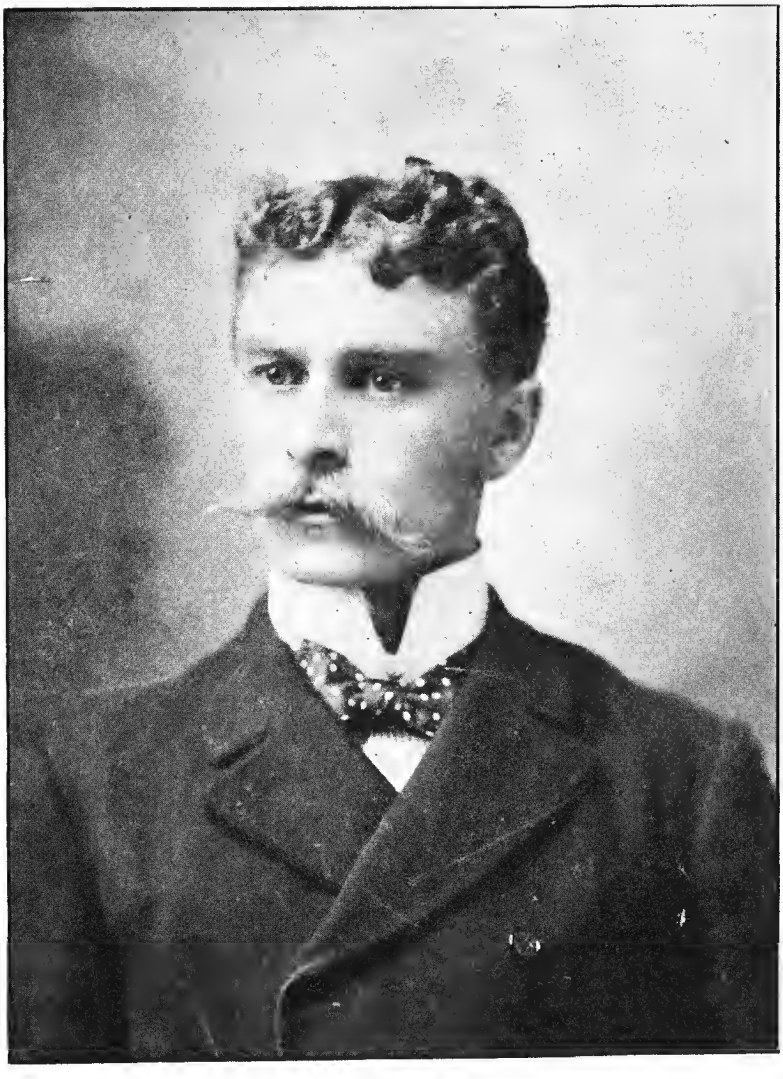

CHAS. W. PETERSON.

Appointed Deputy Commissioner of Agriculture, N.W.T.
Resigned June 30, 1903.

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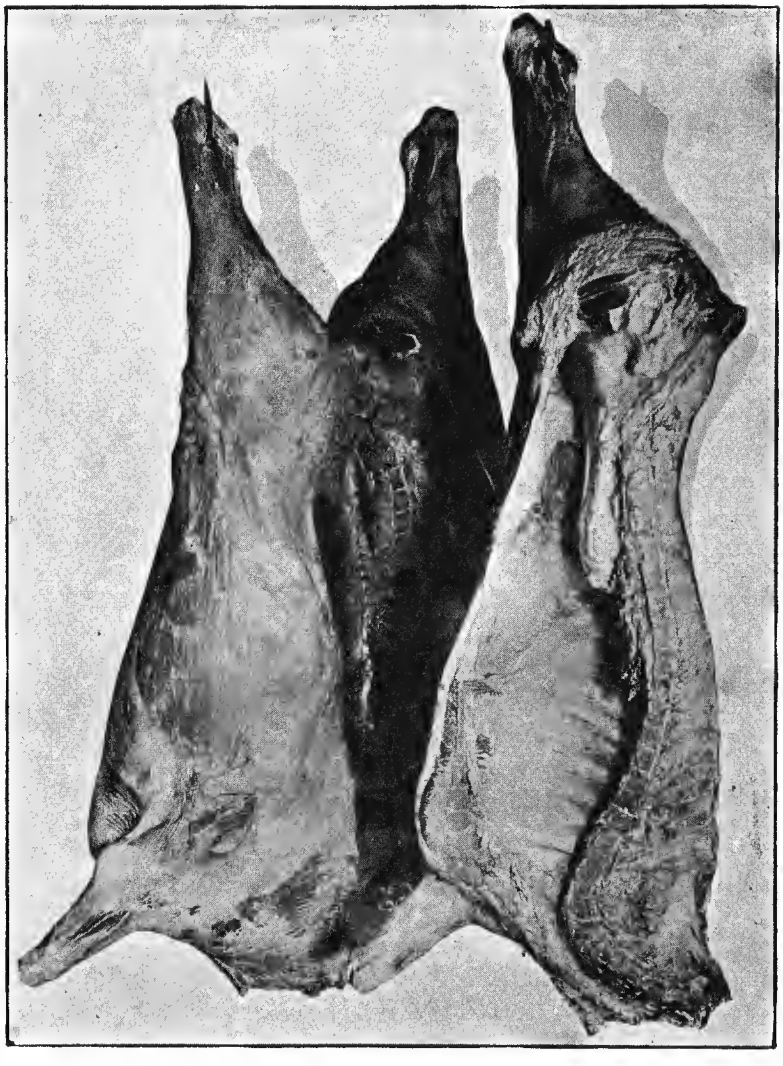
PLATE No. II.



CARCASES OF STEERS FATTENED BY R. J. PHIN, MOOSOMIN.

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PLATE No. III.

TROUT CREEK HERO—28132.

Sweepstakes Shorthorn Bull at Calgary, 1903.

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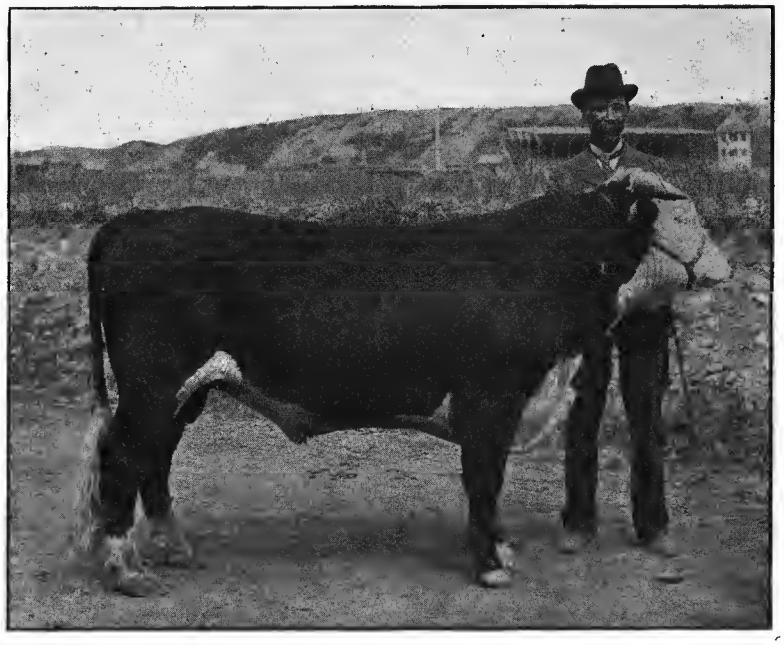
PLATE No. IV.



BONNIE BRAE HESIOD 2ND—128422 Am. H.B.
Sweepstakes Hereford, and highest priced animal of Calgary 1903 sale.

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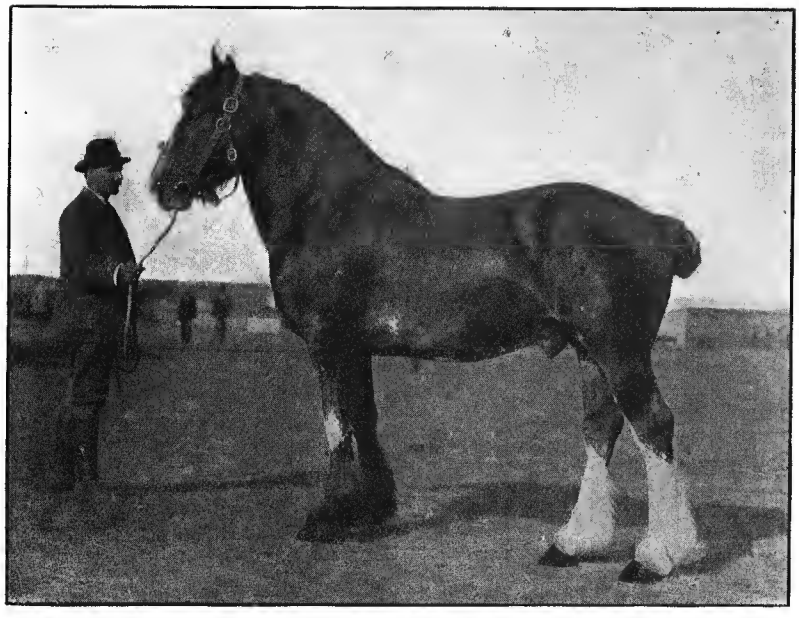
PLATE No. V.



CHARMING PRINCE [2793].

Championship winner, Calgary Spring Stallion Show, 1903.

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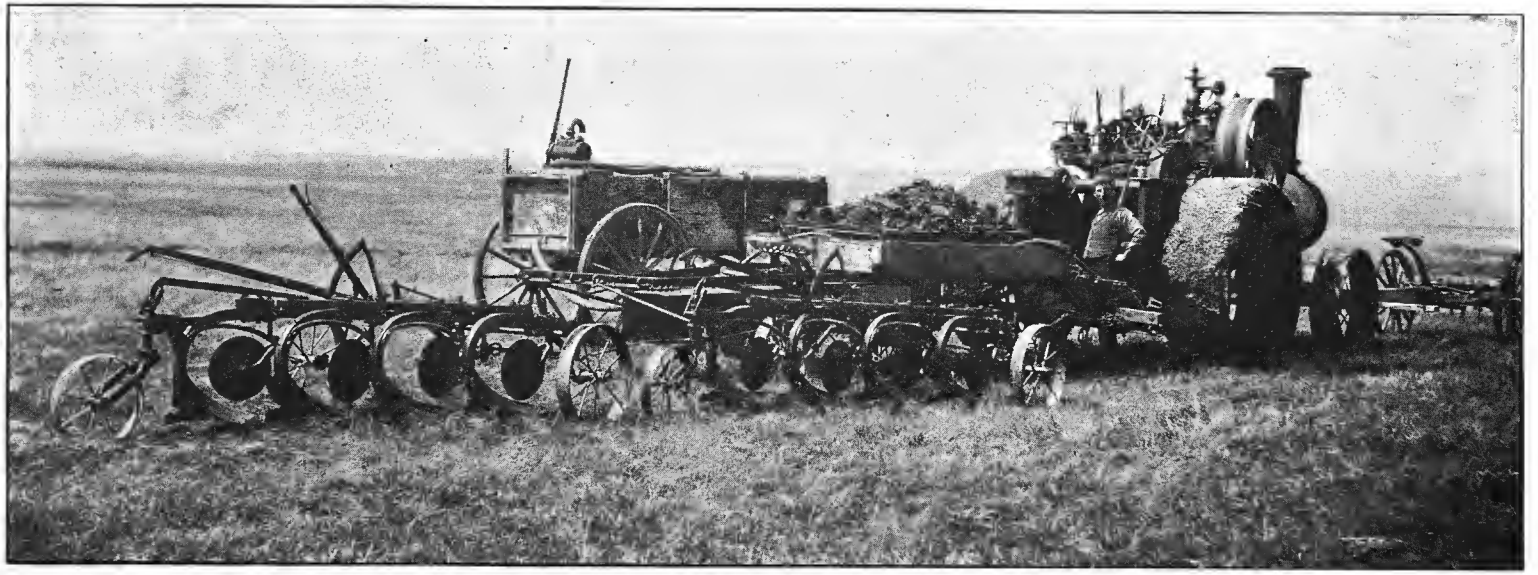
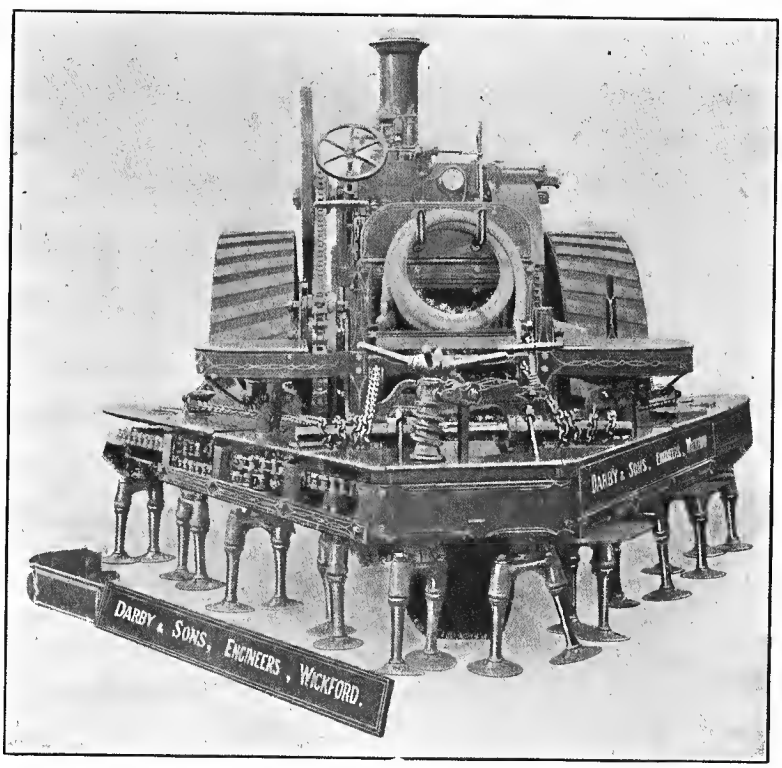
PLATE No. VI.



STEAM PLOWING OUTFIT AS USED IN THE NORTH-WEST TERRITORIES.

PLATE No. VII.



THE DARBY LAND DIGGER, RECENTLY INTRODUCED INTO THE TERRITORIES.

PLATE No. VIII.

ALFALFA, NEAR LETHBRIDGE.

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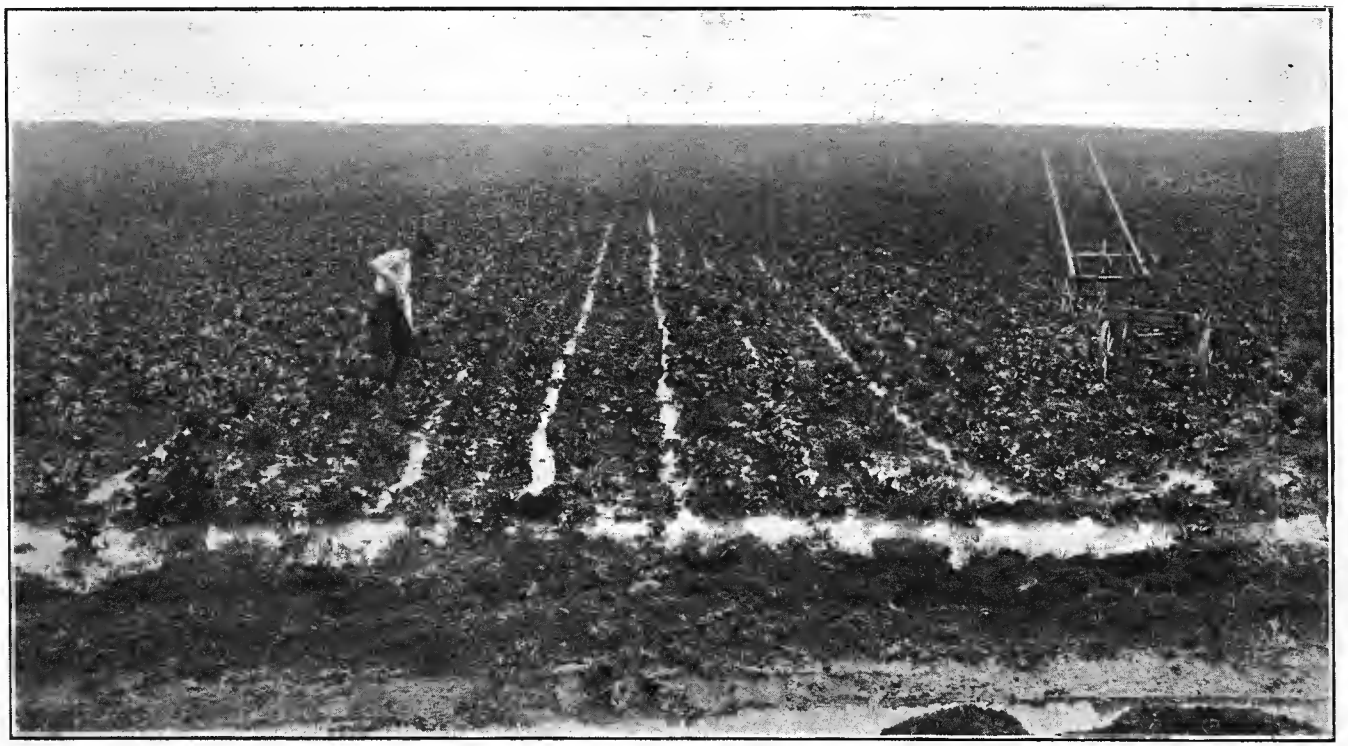
PLATE No. IX.



IRRIGATING SUGAR BEETS, RAYMOND.

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PLATE No. X.

RAYMOND BEET SUGAR FACTORY.

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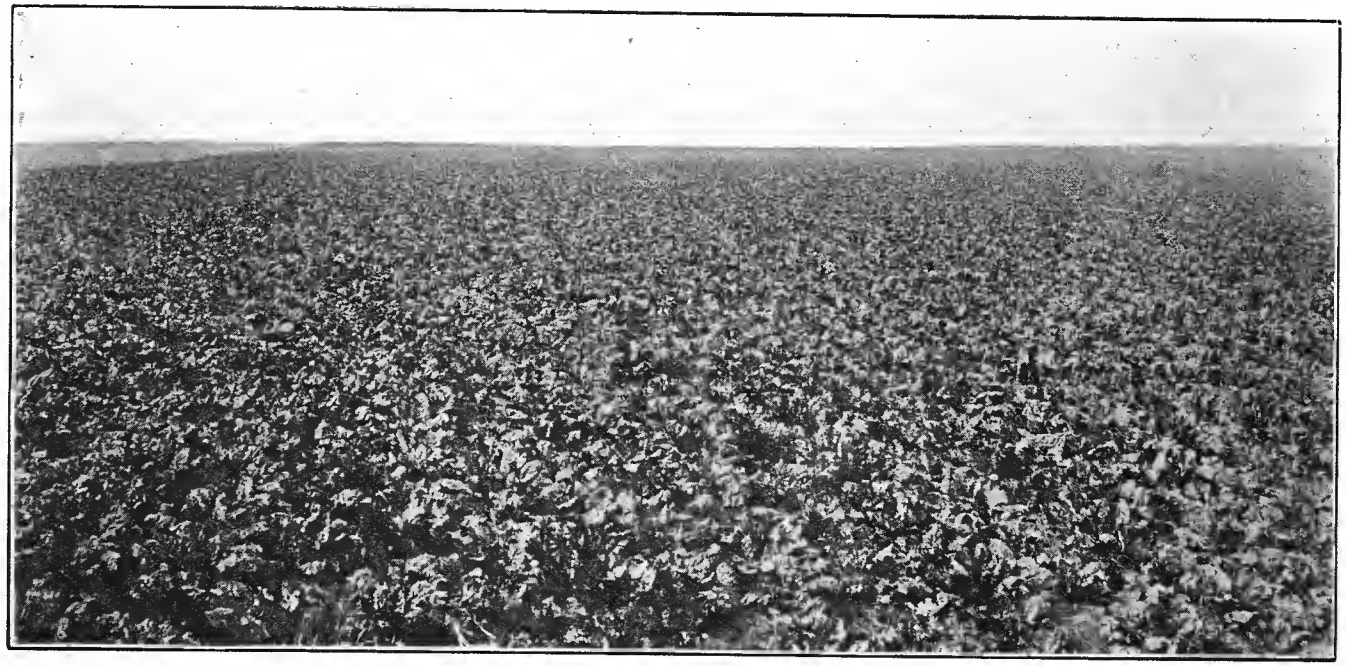

SUGAR BEETS, RAYMOND.

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OATS, SOUTHERN ALBERTA.

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